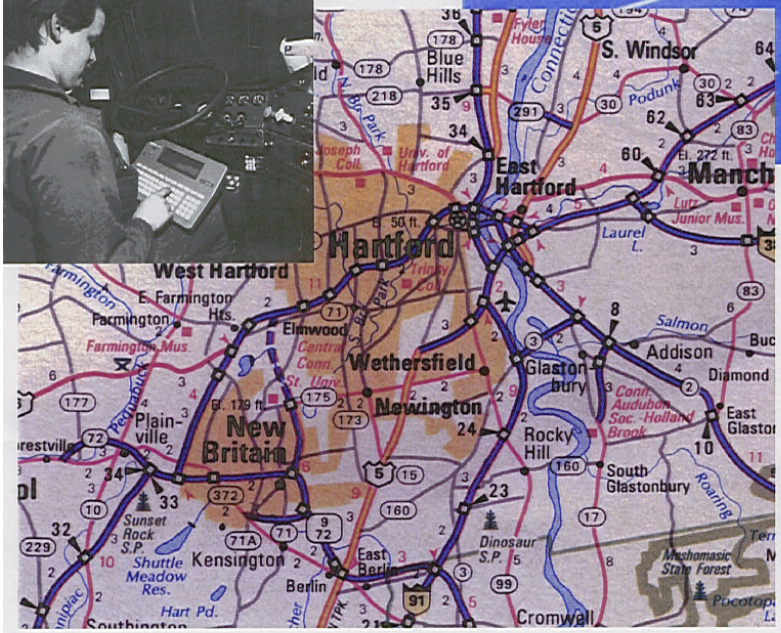
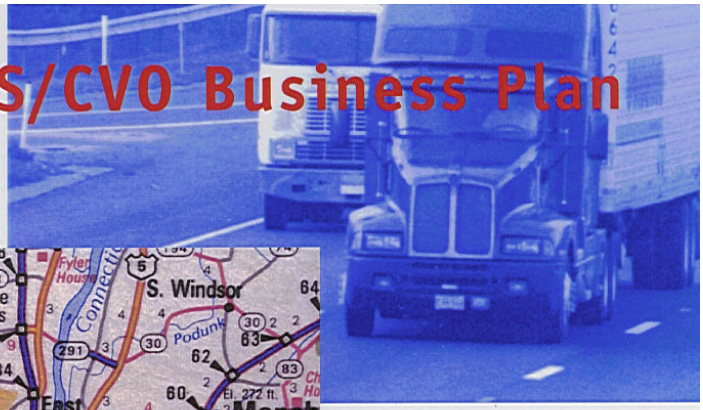
Connecticut ITS/CVO Business Plan

FINAL REPORT





Prepared for the STATE OF CONNECTICUT

Presented by the NORTHEAST TRANSPORTATION INSTITUTE

Northeast Transportation Institute

June 1998

STATE OF CONNECTICUT
DEPARTMENT OF MOTOR VEHICLES

60 STATE STREET WETHERSFIELD, CONNECTICUT 06161

June 5, 1998

Mr. Dan Stock
ATA Foundation
Northeast Transportation Institute
660 Roosevelt Avenue
Pawtucket, RI 02860

Re: Connecticut ITS/CVO Business Plan (Final Report)

Dear Mr. Stock:
This letter will serve as notice that the Connecticut ITS/CVO Business Plan, Final Report dated June 1998, was endorsed unanimously by the voting members of the Motor Carrier Advisory Council on Thursday, June 4, 1998.

The council appreciates the effort and hard work that everyone put into the report's development.

Sincerely,

Carlton R. Csiki
Division Chief
Commercial Vehicle Safety Division
Chairman, Motor Carrier Advisory Council

Connecticut ITS/CVO Business Plan

Table of Contents

1.0 Introduction and Overview of Business Planning Process

The State of Connecticut is a leader in service orientation towards the delivery of government services. It has long recognized the vital partnership links between government and its constituents to ensure a high quality of life and economic well being within the state. This strong focus on service and customer satisfaction is strongly evident within the Connecticut agencies responsible for the administration and enforcement of motor carrier rules and regulations.

These agencies are proactive in working with each other and the motor carrier community to improve roadway safety and operating efficiencies. These efforts include the rationalization of the State's regulatory structure, elimination of many duplicative administrative requirements, education to improve motor carrier understanding and compliance with State and federal rules and regulations, and synergistic organizational arrangements.

This commitment by Connecticut agencies to work in partnership with industry is exemplified by the Connecticut Motor Carrier Advisory Council (MCAC). Established in 1992, the MCAC is comprised of the Commissioners of Transportation, Motor Vehicles, Public Safety, Revenue Services, Economic Development, Environmental Protection, and recently, the Department of Information Technology. The MCAC provides a forum for representatives from the motor carrier industry to review and comment on agency legislative proposals prior to legislative sessions. The MCAC enables strong inter-agency and private sector alignment of goals and effective coordination of efforts.

The MCAC supported the 1995 ATA Foundation-led Connecticut ITS/CVO Institutional Issues Study by providing agency representation on the public/private CVO Steering Committee which guided the effort. The study confirmed the desire of Connecticut agencies and motor carriers to utilize both existing and rapidly evolving technology to implement a seamless flow of data resulting in timely and accurate information across the spectrum of users. The MCAC endorsed the study's findings and a Memorandum of Understanding supporting the Federal Highway Administration-sponsored Commercial Vehicle Information Systems and Networks (CVISN) was signed by the Commissioner members of the MCAC. This high level of commitment and proven technical capabilities led to the award of a model deployment grant for the development CVISN in Connecticut.

The CVISN effort is just one of several organizational and technology-enhanced initiatives in Connecticut to improve the regulation and operating condition of the motor carrier industry. These programs include: State and regional incident management activities, safety assurance, electronic credentialing, and information access and exchange. These initiatives will enable new services and opportunities for Connecticut motor carriers.

The success of these initiatives will depend on their meeting the real needs of the end user—the motor carriers. These needs include: reduced administrative burdens; timely information to better manage safety and operations; reduced delays due to congestion or

roadside inspections; improved turn-around time for obtaining credentials; and, improved access to agencies (24-hours per day, seven days per week). Through appropriate sequencing and tailoring of services, the ITS/CVO projects described in this report can meet these needs and assure maximum value to agencies and motor carriers alike.

This document describes:

- goals and objectives for Connecticut ITS/CVO deployment;
- current regulatory structure and activities;
- envisioned process changes enabled by ITS/CVO technologies;
- how motor carriers perceive the value of ITS/CVO services;
- benefits and costs of ITS/CVO to motor carriers and agencies;
- current and planned ITS projects; and,
- deployment issues.

This public/private effort is lead by the ATA Foundation's Northeast Transportation Institute, Motor Transport Association of Connecticut, Federal Highway Administration, and Connecticut Department of Transportation. The Connecticut ITS/CVO Business Plan was funded by a Federal Highway Administration ITS/CVO Mainstreaming grant and matching funds provided by the State of Connecticut.

The effort was supported by the following Connecticut agencies:

- Department of Motor Vehicles;
- Department of Revenue Services;
- Department of Public Safety, Division of State Police
- Department of Public Safety, Office of the State Fire Marshal;
- Department of Environmental Protection;
- Department of Information Technology;
- Connecticut Construction Industry Association; and,
- Connecticut Business Industry Association.

Development of this ITS/CVO business plan was guided by the expertise of the CVO Steering Committee, comprised of representatives from the above listed regulatory and enforcement agencies (many from the CVISN core deployment teams), motor carriers, and other organizations who help define and advance the strategic planning for ITS/CVO deployment in the state. The CVO Steering Committee provided vital input into the framework of the ITS/CVO Business Plan and commented on interim deliverables.

The interim deliverables were distributed to the CVO Steering Committee and formed the basis of discussion at three meetings: September 15, 1997; February 2, 1998; and, May 12, 1998. The members of the CVO Steering Committee and the minutes of the meetings are presented in Appendix A. A draft of the Connecticut ITS/CVO Business Plan was submitted to Federal Highway Administration (FHWA) on December 31, 1997 for comment. FHWA comments have been incorporated into this report.

The Connecticut ITS/CVO Business Plan was developed through the following four activity groups:

Current and Planned Activities

This activity group established the current and expected near-term status of CVO operational and regulatory activities for agencies and motor carriers. This effort built upon the process flow and functional analyses developed for the Connecticut ITS/CVO Institutional Issues Study.

Goals and Objectives for Connecticut ITS/CVO

Specific safety and operational goals and objectives were developed and supporting ITS/CVO services were identified and prioritized in this activity. The ranking criteria were:

- overall potential benefits or value to motor carriers;
- cost effectiveness;
- technological feasibility; and,
- relevance to on-going state, regional, and national ITS/CVO initiatives.

ITS/CVO Projects, Services, and Goals and Objectives

The linkages of current and planned ITS/CVO projects to services meeting the goals and objectives were established. This was done to assure that the goals and objectives could be met, identify gaps, and validate that deployment timetables correspond with services rankings.

Business Plan

The results of the above three activity groups were synthesized into this business plan which:

- detail costs, benefits, and time-tables for ITS/CVO deployments; and,

- form the basis for strategy and timetables for the development and delivery of informational outreach materials to Connecticut motor carriers and state agency personnel.

This ITS/CVO Business Plan will be summarized and form the basis for continuing outreach to motor carriers and agency personnel.
It is the recommendation of the CVO Steering Committee that this ITS/CVO Business Plan is reviewed and updated periodically. It is suggested that the updating process can be conducted by the Connecticut CVISN Project Management Teams .

2.0 Mission Statement

The ITS/CVO initiatives described in this Business Plan reflect the following mission statement:

> **Improve roadway safety and enhance motor carrier and agency operational efficiency through regulatory reengineering and deployment of advanced technology systems.**

3.0 Guiding Principles

The Connecticut ITS/CVO Business Plan reflects the following guiding principles:

- four guiding principles for ITS/CVO promulgated by the American Trucking Associations--cost-effectiveness; open architecture and standards (compatibility); durability; and, voluntary participation;

- the 39 guiding principles established by the ITS America CVO Programs Subcommittee with representation from the National Private Truck Council, ATA, trucking companies, owner/operators, motor coach operators, UPS, and several state administrative and regulatory agencies (Appendix B); and,

- the I-95 Corridor Coalition ITS Interoperability Resolution ratified on August 6, 1997 at the CVO Working Group meeting in Boston, MA (Appendix B).

These guiding principles ensure maximum stakeholder participation and compatibility with regional and national ITS/CVO initiatives.

4.0 Connecticut ITS/CVO Goals and Objectives

The overriding goals of ITS/CVO programs in Connecticut are to enhance the safety and operational efficiency of the State's roadways and to improve agency and motor carrier administrative efficiency. The following goals and objectives provide a framework for ITS/CVO deployments in Connecticut:

Goal: Reduce the number and severity of accidents involving commercial vehicles
Objectives: Improve motor carrier compliance with safety regulations and expand best practices in safety management. Expand motor carriers' real-time access to fleet safety information.

Goal: Promote efficiencies in CVO enforcement and motor carrier safety compliance

Objectives:

Deploy roadside technologies and information to identify and focus enforcement on high-risk motor carriers.

Automate the demonstration and verification of safety compliance.

Goal: Promote efficiencies in CVO administrative functions

Objectives:

Reengineer agency administrative procedures and data requirements.

Automate credentialing activities—acquisition, reporting, and payments.

Implement advanced mapping technologies for oversize/overweight routing and permitting.

Goal: Improve highway operations and motor carrier mobility

Objectives:

Support development of Advanced Traveler Information Systems (ATIS/CVO) to reduce the impact of traffic congestion on motor carrier operations.

Support open standards for dedicated short-range communications (DSRC) for traffic management and automated safety screening.

The deployment of ITS/CVO technologies both enable and demand changes in CVO administrative and enforcement activities. For example, roadside enforcement access to real-time safety and credential information, coupled with automated vehicle identification and weighing technologies obviate the need to stop the vehicle to ensure its safe and legal operation. Likewise, the enforcement officer can then focus resources on the physical inspection of high-risk carriers.

Section 5 describes the roles, responsibilities, and transaction magnitude of the Connecticut agencies charged with the regulation and enforcement of commercial motor vehicles. Section 6 describes the expected process changes through ITS/CVO deployment.

5.0 Connecticut Motor Carrier Regulatory and Enforcement Agencies/Organizations— Structures, Roles, Responsibilities, and Procedures

This section provides an overview of the Connecticut agencies responsible for commercial vehicle operations regulation and enforcement. This review includes an assessment of agency levels of activity, procedures, and data processing capabilities. This provides the background for an assessment of the benefits and costs of current and planned ITS/CVO programs.

The responsibilities and level of activity for the major CVO regulatory agencies: Department of Transportation; Department of Motor Vehicles; Division of Public Safety—State Police; Department of Revenue Services; and, Department of Environmental Management are illustrated in Figure 1, and detailed in the following text.

Figure 1
Connecticut Motor Carrier
Regulatory Agencies and Their Responsibilities

Administrative Agency Function	Department of Transportation	Department of Motor Vehicles	Division of State Police	Department of Revenue Services	Department of Environmental Protection
Commercial Drivers License		**X (Issuance & Enforcement)**	**X (Enforcement)**		
Excise Tax				**X**	
Fuel Taxation				**X**	
Hazardous Waste Permitting					**X**
Operating Authority	**X (Household Goods Carriers)**	**X (SSRS)**			
Oversize/Overweight Permitting	**X**				
Radioactive Transport Permitting	**X**				
Registrations and IRP		**X (Issuance & Enforcement)**	**X (Enforcement)**		
Safety Inspections		**X**	**X**		**X**
Sales Tax-Vehicle Parts				**X**	
Sales Tax- Transfer of Vehicle				**X**	
Weight Enforcement		**X**	**X**		

5.1 Connecticut Department of Transportation (DOT)

The DOT is responsible for three areas of motor carrier regulation—oversize/overweight permits, radioactive permits, and operating authority for household goods movers. Additionally, germane to CVO, DOT operates an advanced traffic management system, coordinated through DOT's Highway Operations Centers in Bridgeport and Newington. The following describes the DOT activities.

Oversize/Overweight Permits

An oversize/overweight permit is required for the transportation of a vehicle and/or vehicle and load when the statutory size and weight limits are exceeded. DOT issues approximately 100,000 oversize/overweight permits each year and has account codes for nearly 500 motor carriers. The Department uses a FoxPro computer database system for processing oversize/overweight permits applications. When an application is received, the information is manually entered into the system.

The system maintains information on the companies and histories of permits issued and includes a "pick list" of pre-approved routes. If an applicant does not choose one of the "pick list" routes, the DOT Highway Operations Group consults a reference map showing weight restricted bridges and other obstacles prior to route approval. The current database system does not provide for logging of multiple tractor and trailer combinations.

For loads under 200,000 pounds, turn-around for a permit is generally one hour or less. For loads in excess of 200,000 pounds, routing approval is required from the DOT Bridge Safety group. In these cases, the application is physically routed to the group for review.

DOT receives applications and delivers oversize/overweight permits/approval by phone, fax or through the for-hire permit services like Comdata, Xerofax, Interstate, or Maryland Permits, etc. who maintain dedicated fax machines at DOT. Payment for permits is by cash or check. The State's base permit fee for an oversize/overweight permit is $23.00. An additional $3.00 is charged if the permits are sent via fax. The for-hire permit services also charge fees for their service and fax equipment.

Radioactive Permits

Radioactive materials transport also requires permitting by DOT. A radioactive permit is required for the transportation into or through the state for any of the following materials:

- any quantity of radioactive material specified as a "large quantity" by the Nuclear Regulatory Commission in 10 C.F.R. Part 71, entitled "Packaging of Radioactive Material for Transport";
- any quantity of radioactive waste which has been produced as part of the nuclear fuel cycle and which is being shipped from or through the state to a waste disposal site or facility; or,

- any shipment of radioactive material or waste which is carried by commercial carrier and which is required in 10 C.F.R. or 49 C.F.R. to have a placard unless such a person has been granted a permit to transport such materials from the Commissioner of Transportation.

Low level radioactive permits are valid for six months. High level radioactive permits are issued on a per trip basis. Radioactive permits are subject to route approval.

Operating Authority

DOT regulates both the entry and rates of household goods movers. Applications for operating authority for a household goods mover carrier certificate must be accomplished by a fee of $177.00 and a demonstration of the applicant's financial stability, fitness, and public convenience and necessity. Household goods rates are filed individually or collectively under the Connecticut Department of Transportation approved collective rate making agreements.

Household goods carriers must purchase a credential costing $17.50. Applications are mailed to carriers in October and are due in December. Insurance must be maintained by each carrier throughout the operating period, (Form E, or BMC 91x if also operating under the Interstate Single State Registration System).

Traffic/Incident Management

As far back as 1983, DOT has been proactive in the management of roadway incidents. Elements of Advanced Traveler Information/Traffic Management Systems were being deployed with computerized signal systems development and installation of portable and permanent Variable Message Signs (VMS). Significant effort over the last decade has forged strong organizational relationships between DOT, Federal Highway Administration, Connecticut State and local police, the Southwestern Regional Planning Agency, the Capitol Region Council of Governments, and other state and local representatives to implement an effective incident management program in Connecticut.

Today, DOT manages two operations centers—in Bridgeport and Newington. The Newington center operates 24-hours-a-day, seven-days-a-week providing assistance to State and local police with an 800 number exclusively for their use. The components of an Advanced Traffic Management System, including closed-circuit television (CCTV) cameras, microwave radar detectors, computerized signal systems and VMS for the Hartford Capitol area are operated from this center.

The Bridgeport center operates within the dispatch area of State Police Troop G Headquarters in Bridgeport and is equipped with 91 CCTV cameras, microwave radar sensors and VMS with a fiber optic link to the center. DOT operators view and monitor the traffic flow and continually advise State Police desk personnel of traffic incidents as they occur. DOT operators send live video of incidents to monitors for viewing by State

Police dispatchers who can advise the troopers of conditions at the scene prior to their arrival. The live video feeds assist State Police in the verification and location of incidents received through 911 calls.

The cooperative efforts between DOT and the State Police has also led to the identification of eight high-incident areas along I-95. During peak traffic times of day, additional State Police patrols are assigned to these areas to augment the normal patrols. DOT also operates the Connecticut Highway Assistance Motorist Patrol (CHAMP) consisting of four specialized vehicles which provide motorist assistance in minor repairs, flat tire changes, jump starts, or in pushing disabled vehicles to safe areas.

DOT is a partner in the New York Metropolitan Model Deployment Initiative (MMDI) supporting development of the TRANSCOM regional architecture which will enable accurate and timely exchange of traffic information across agencies in the region.

5.2 Connecticut Department of Motor Vehicles (DMV)

The DMV has dual administrative and enforcement responsibilities. The agency is responsible for administration of intrastate and International Registration Plan (IRP) vehicle registrations, Single State Registration System (SSRS), issuance of commercial drivers licenses (CDL), and vehicle titles. These are described in the following text.

DMV Administrative Responsibilities

DMV registration transactions are accomplished via mail or over-the-counter (renewals are restricted to mail or drop-off box). Paper forms are used for initial, supplemental, and renewal transactions. State personnel manually enter the information into the Lockheed VISTA/RS system is used for IRP processing. Fee payments are by guaranteed funds. Credentials are issued via mail or over-the-counter.

DMV currently services 8,903 intrastate (companies with vehicles in excess of 18,000 pounds gross vehicle weight) and 1,744 interstate (IRP) trucking company registration accounts. These firms operate more than 27,000 commercial vehicles. Figure 2 presents the distribution of Connecticut intrastate and IRP trucking companies by fleet size (for registered vehicles in excess of 18,000 pounds gross vehicle weight). Additionally, Connecticut bus and motor coach registrations include: 852 interstate and 1,108 intrastate charter buses, 5,700 school buses, and 3,000 service buses.

Figure 2
Trucking Companies and Trucks by Fleet Size

	Intrastate Accounts		Interstate Accounts	
Fleet Size	Trucks	Companies	Trucks	Companies
1-5	11,346	8,539	2,672	1,435
6-20	3,010	321	2,334	246
21-50	764	24	1,389	45
51-75	827	13	441	7
76-100	0	0	261	3
>100	956	6	3,308	8
Total	16,903	8,903	10,405	1,744

Connecticut 72-hour trip permits are also available through the IRP Section of DMV. Trip permits are to be purchased before a vehicle enters the State of Connecticut. These permits are also available through transmitter services that have facsimile transmission capabilities.

DMV Enforcement Responsibilities

DMV is also the lead Motor Carrier Safety Assistance Program (MCSAP) agency and is responsible for weight enforcement. The 34 DMV Commercial Vehicle Safety Division (CVSD) inspectors and State Police (SP) troopers conduct approximately 15,000 inspections per year resulting in issuance of approximately 4,300 vehicle and 2,000 driver out-of-service orders. Of these inspections, approximately 500 are bus/motor coach inspections.

CVSD inspectors and SP troopers currently use pen-based computers with ASPEN/ISS software and linked via cellular digital package data to national safety and law enforcement databases. An additional 15 mobile data units will be deployed in the near future. These units provide inspectors with motor carrier and driver specific safety information to assist in screening vehicles for inspection and automation of processing of inspection results. The inspection information is uploaded via wireless communications to the SAFER safety record system and the newly developed SAFER Data Mail Box.

The use of portable data terminals has allowed inspectors to reduce the time of conducting and documenting inspections by nearly 30-percent—from 35 to 25 minutes. The SAFER Data Mail Box when fully deployed will represent and important tool allowing CVSD inspectors to identify and not re-inspect vehicles recently inspected in neighboring states and also support CVSD's Driver/Vehicle Out-Of-Service Verification efforts by allowing the inspectors to identify an out-of-service "jumper".

The Inspection Repair Audit Program (IRAP) is an extension of and follow-up to the roadside inspections. An IRAP audit is usually performed on interstate motor carriers, but intrastate carriers are audited if they consistently fail to comply with state and federal safety regulations. Approximately eighty percent of the carriers selected for audit are those who have not provided CVSD documentation that they have corrected violations recorded during roadside inspections. The remaining twenty percent of carriers selected are audited to verify that vehicle repairs have indeed been performed. Inspectors performing the audits use pen-based computers programmed with necessary carrier information. CVSD also conducts an Educational Contact Program designed to enhance motor carrier understanding of the myriad rules and regulations for safe and legal operation in the State.

The State of Connecticut was chosen in 1994 to pilot FHWA efforts to develop a unified carrier identification system. The effort was designed to consolidate multiple safety information systems and incorporate inspection data on intrastate motor carriers into SAFETYNET and MCMIS safety databases. The State began issuance of USDOT numbers to intrastate motor carriers and as of December 23, 1997, has issued 3,126 USDOT numbers to intrastate carriers subject to the regulations. The development of a dependable and accurate uniform carrier identification system is crucial to successful roadside screening programs. This pilot was so successful that FHWA invited other states to participate and announced the success in the federal register to encourage additional states to participate in the program.

Weight inspections are conducted at six fixed sites, and by 21 mobile units using portable scales. More than 200,000 commercial vehicles are weight by CVSD/SP personnel each year resulting in the issuance of approximately 4,000 citations.

The six fixed site weigh stations are:

1. Greenwich—I-95 northbound
2. Danbury—I-84 eastbound
3. Waterford—I-95 northbound
4. Waterford—I-95 southbound
5. Middletown—I-91 northbound
6. Union—I-84 westbound

The Greenwich and Union weigh stations use slow speed weigh-in-motion scales (20-25 mph) installed in deceleration ramps at the facilities. The remaining fixed sites use static scales.

CVSD also conducts programs in Dyed Fuel Testing; Judicial Outreach; Hazardous Materials Enforcement; Commercial Drivers License (CDL) Testing, CDL Medical Waiver; Fire Apparatus Inspection; Compliance Review; School Bus Inspection; and, registration Compliance.

5.3 Department of Public Safety-Division of State Police (SP)

The mission of the Department of Public Safety is varied and complex but the agency's primary charge is to serve and protect all citizens as guaranteed by the United States Constitution and the Constitution of the State of Connecticut.

A major responsibility of the Division of State Police is to protect persons and property on public highways. Traffic accidents are responsible for an increasing number of deaths, injuries and high levels of property damage. Speeding and driving while intoxicated are common factors in many fatal and injury producing accidents and such violators are targeted for enforcement actions.

State troopers perform weight and safety inspections for the State Police commercial motor vehicle contingent. These troopers are educated to the North American Safety Inspection Standards and conduct Level I through III inspections. The State Police inspections are generally "walk-around"—quick document reviews and cursory visual inspection of brakes, lights, tires, etc.

The State Police, in conjunction with DOT and other agencies, have improved the consistency of accident reporting via an electronic uniform police accident report form for use with pen-based hand-held computers linked a network for Connecticut agencies to exchange accident data, and a central accident database.

5.4 Connecticut Department of Revenue Services (DRS)

The responsibility of DRS is to ensure the appropriate payment of taxes to the state. The DRS emphasis on commercial vehicle operations is fuel tax licensing and tax record management. Connecticut is a member of the International Fuel Tax Agreement (IFTA) and serves approximately 2,700 IFTA accounts and 3,800 intrastate motor carrier accounts.

Initial application for IFTA license is usually conducted in person, but can be done via mail. Renewal applications are mailed to carriers and returned via mail or over-the-counter. Fee payments are by cash or check.

The State uses the New York Regional Processing Center (NYRPC) to process IFTA tax filings. IFTA motor carriers are required to file quarterly fuel tax returns. Currently motor carriers mail the returns to the NYRPC lock-box bank where the information is manually entered into the tax processing system. The NYRPC generates exception reports (erroneous information, miscalculated fees, etc.) which DRS edits on-line with the NYRPC. Intrastate motor carriers are not required to file quarterly fuel tax returns if they submit an annual affidavit.

While fuel tax payments are generally made by check, DRS will allow any IFTA motor carrier to use electronic funds transfer (EFT). Accounts with fuel tax payments greater than $300,000 are required to file tax payments electronically.

5.5 Connecticut Department of Environmental Protection (DEP)

DEP regulates and permits for the transportation of hazardous waste and biomedical waste. DEP services approximately 244 permitted haulers. Hazardous waste transporter permits are issued on annual or four-year basis. DEP manages the permit record keeping via an agency generic permit system called the Permit Application Management System (PAMS).

The permit process requires the applicant to submit the permit application instruction set; permit application transmittal form; permit application; and, payment by check or money order. Applications are submitted and permits issued via mail. Permitted haulers are required to submit monthly paper reports detailing information on the generator of waste, quantity and type, and to where the waste was delivered.

DEP randomly participates in roadside inspections with the Department of Motor Vehicles at weight and inspection sites to make sure vehicles have the necessary HazWaste permits, and are in compliance with applicable regulations. Additionally, when performing inspections of companies generating HazWaste, DEP inspects the hauler list to make sure all carriers listed have obtained the proper permits.

DEP has 12 to 15 people who make up the State's Oil and Chemical Response Unit. The unit reports to highway and stationary incident sites where a hazardous materials spill has occurred. The unit works to contain spills and also calls in contractors to respond and clean a spill site.

5.6 Connecticut Motor Carrier Advisory Council

The State of Connecticut has long understood the importance of the motor carrier industry to the economic well being of the state and has actively solicited industry input into regulatory decision making. The Connecticut Motor Carrier Advisory Council (MCAC) was established in 1992 under Connecticut Statute 14-11c to serve as a forum for representatives of the motor carrier industry to meet with representatives of agencies responsible for the oversight, enforcement, and regulation of the motor carrier industry. The charge of the MCAC is to:

- make recommendations to eliminate the duplication of work among the various state agencies;
- make recommendations to promote uniformity of enforcement policies;

- encourage the consolidation of the state's efforts to regulate and oversee the operation of commercial motor vehicles in the state by reviewing the feasibility of consolidating the issuing of the forms, decals, permits, registrations, licenses and approvals required for the operation of commercial motor vehicles in the state;
- consider the intrastate and interstate effects of state policies on the ability of Connecticut motor carriers to compete with motor carriers based in other states; and,
- consider and make recommendations concerning any other matter deemed relevant by the council.

The voting members of the MCAC are comprised of the Commissioners of the Departments of Transportation, Motor Vehicles, Public Safety, Revenue Services, Economic Development, and Environmental Protection, or their designees. The newly formed Department of Information Technology has recently joined the MCAC.

Though the primary purpose of the MCAC is to provide industry with the opportunity to review and comment on agency legislative proposals prior to legislative sessions, a common objective of the agency members of the MCAC is to operate in the most efficient and customer-friendly manner.

The MCAC played a pivotal role in the Connecticut Institutional Issues Study by providing agency representation to the public/private CVO Steering Committee that guided the study's efforts. The agency members of the CVO Steering Committee endorsed the findings of the study. A Memorandum of Understanding was signed by the Commissioner members of the MCAC to actively pursue funding for the advancement and implementation of the ITS/CVO study's recommendations and to support the federal initiative to enhance regulatory efficiency.

The success of the December 1995 Connecticut Institutional Issues Study resulted from the supportive and collaborative nature of the agencies and motor carrier representatives comprising the CVO Steering Committee working together to improve the operational efficiency of the regulatory environment. The Connecticut CVISN program is based on this continuing cooperation amongst the agencies and between agencies and motor carriers.

Sponsorship and agency management of the CVISN model deployment is be led by the Department of Motor Vehicles. The Motor Transport Association of Connecticut, leads motor carrier efforts. The CVISN project team and working groups include staff members from other participating Connecticut agencies, the ATA Foundation’s Northeast Transportation Institute, and private-sector organizations. The Motor Carrier Advisory Council continues to contribute its support and guidance to the CVISN model deployment effort through participation on the CVO Steering Committee.

6.0 Connecticut ITS/CVO Program— Potential Process Changes

The deployment of ITS/CVO technologies can have a profound impact on the ways in which motor carriers and agencies conduct business. Many regulatory and enforcement processes would be affected through automation. The key areas of change would include:

- eliminating much manual data entry or re-transcription of information through the consolidation of data requirements and electronic transmission of carrier data;
- improving the capacity to verify inter-agency carrier data prior to issuance of credentials;
- improving turn-around time and reducing costs for the receipt of credentials;
- focusing enforcement resources on high-risk carriers through roadside real-time access to safety and credentials information;
- verifying the weight of vehicles at mainline speeds;
- providing flexibility in how motor carriers demonstrate compliance with rules and regulations; and,
- making specialized safety and travel information available to fleet managers.

Figure 3 illustrates many of these expected process changes in CVO processes resulting from ITS/CVO deployments in Connecticut. These envisioned process changes could only be realized through many incremental procedural and regulatory changes, legacy system modifications, systems networking, and educational efforts. For example, the electronic/automated application and reception of oversized/overweight permits would require not only the communications/software to transmit documents between motor carriers and DOT, but requires:

- legacy system upgrades to incorporate mapping/routing functions;
- computer networking with other agencies for verification and exchange of credential data; and,
- mechanism for the payment of permit fees.

Additionally, there may be several areas of CVO regulatory activity that may not initially warrant the investment in systems upgrades due to a very limited number or infrequency of transactions. One such area may be the permitting of hazardous waste or biomedical waste haulers. Automation of such functions may not be accomplished under the auspices of ITS/CVO, but may be done as part of statewide agency system upgrades.

Figure 3
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
IRP Registration **Department of Motor Vehicles**	Submission of Application	In person or by mail.	Required data manually entered into carrier resident Carrier Automated Transaction System (CATS) or carrier system interchange with CATS. Data transferred to State Credential Interface (CI) via Electronic Data Interchange (EDI) or Internet.
	Processing of Application	State personnel manually verify carrier information and enter data from carrier paper application into DMV legacy system. VISTA-RS generates an invoice which is handed to or mailed to carrier.	Electronic edit checking at CAT. Carrier credential, tax and safety status verified through Connecticut Administrative Systems Interface (CASI)/Commercial Vehicles Information Exchange Windows (CVIEW). VISTA Registration System (RS) generates electronic invoice. Payment method and authorization via CAT.
	Payment of Fees	Guaranteed funds except for small fee amounts.	Electronic Funds Transfer (EFT), debit accounts, or credit cards.
	Issuance of Credential	Over-the-counter or by mail.	Electronic issuance from VISTA RS through CASI to CI to CAT via EDI or Internet.
	Interface to RP Clearinghouse	None.	Electronic via EDI.
SSRS **Department of Motor Vehicles**	Submission of Application	Paper in person or by mail.	Electronic application via CAT to state CI.
	Processing of Application	State personnel manually verifies carrier information and enters data from paper application into DMV legacy system which generates invoice which is handed to or mailed to carrier.	Electronic edit checking at CAT. Carrier credential, tax and safety status verified through CASI/CVIEW. CI generates electronic invoice. Payment method and authorization via CAT.
	Payment of Fee	Guaranteed funds.	EFT, debit accounts, or credit cards.
	Issuance of Credential	Single paper credential mailed to carrier. Carrier makes copies for fleet.	Electronic through CASI to CI to CAT via EDI or Internet.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
Intrastate Registration **Department of Motor Vehicles**	Submission of Application	In person, by mail, or by fax.	Required data manually entered into carrier resident CATS or carrier system interchange with CATS. Data transferred to State CI via EDI or Internet.
	Processing of Application	State personnel manually verifies carrier information and enters data from paper application from carrier to DMV legacy system to VISTA-RS which generates invoice which is handed to or mailed to carrier.	Electronic edit checking at CAT. Carrier credential, tax and safety status verified through CASI/CVIEW. VISTA-RS generate electronic invoice. Payment method and authorization via CAT.
	Payment of Fee	Guaranteed funds except for small fee amounts.	EFT, debit accounts, or credit cards.
	Issuance of Credential	Over the counter or by mail.	Electronic issuance from VISTA/RS through CASI to CI to CAT via EDI or Internet.
Hazardous Waste and Biomedical Waste Permitting **Department of Environmental Protection**	Submission of Application	By mail (three forms plus payment must be submitted)	Electronic submission of permit application via CATS.
	Processing of Application	Information from paper application materials manually entered into DEP computer with Permitting Application Management System (PAMS).	Integration of PAMS system to CI for direct entry of application information.
	Payment of Fee	By check or money order.	EFT, debit accounts, or credit cards.
	Issuance of Credential	By mail or fax.	Via Fax or CATS.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
IFTA Credentials **Department of Revenue Services**	Submission of Application	Paper. Initial account application in person. Supplemental and annual renewals by mail or by fax. Trip permit application through third party wire service provider.	Required data manually entered into carrier resident CATS or carrier system interchange with CATS. Data transferred to State CI via EDI or Internet to DRS legacy system. Electronic interface to NYRPC.
	Processing of Application	Paper applications, entered into state computer system manually. Electronic updates to NYRPC via EDI.	Electronic.
	Payment of Fee	Guaranteed funds.	EFT, debit accounts, or credit cards.
	Issuance of Credential	By mail or fax.	Electronic issuance of trip permits, cab cards, vehicle resident electronic "IFTA sticker". Via mail for physical IFTA Stickers.
	Interface to IFTA Clearinghouse	None.	Electronic via EDI.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
IFTA Quarterly Tax Returns **Department of Revenue Services**	Submission of Return	Paper fuel tax returns. Carrier uses rate tables to compute tax due. Carrier submits tax return by mail.	Carrier tax information submitted to NYRPC via CAT or EDI transmission from carrier legacy system.
	Processing of Returns	Paper returns forwarded to NYRPC lock box bank. Bank personnel perform data entry and processing of returns. Bank forwards data files to NYRPC which calculate tax liabilities and issues state net settlements. Carrier data forwarded to DRS via EDI. Edits performed by DRS online to NYRPC.	Electronic returns to NYRPC which verifies carrier tax liabilities and payments, and issues state net settlements. Carrier data forwarded to DRS via EDI. Edits performed by DRS online to NYRPC.
	Remittance of Tax	Via check or EFT for accounts with payments larger than $300,000.	EFT, debit accounts, or credit cards.
	Auditing	Audit inquiries via mail.	Electronic audit inquiries and carrier response.
Intrastate—State Road Tax **Department of Revenue Services**	Submission of Application	Carrier submits affidavit annually. Application for new and renewals in person or via mail.	Electronic submission of affidavit and renewal form.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
OS/OW and Radioactive Permits **Department of Transportation**	Submission of Application	In person, by mail, by fax, or Third party service providers (EDS, Comdata, etc.).	Electronic submission of permit application via CATS/CI. Direct fax submission by carriers.
	Processing of Application	Information manually entered into Foxpro database to create permit form and store information for each carrier. Proposed routing compared to standard approved routes within system. Non-standard routes manually reviewed. Bridge limitations noted on physical map. Routing for loads in excess of 200,000 lbs. manually routed to DOT Bridge Safety group for approval. OW registration verification performed manually.	Information electronically received via CATS/CI. Alternatively, fax applications digitized via Optical Recognition technology. Agency data entry eliminated. System improvements to allow more vehicle configuration options to be processed. Electronic transfer of information from OS/OW Permitting to Bridge Safety groups. Global Information Systems for route verification/approval. OS/OW, radioactive hauling information available to roadside via CCVIEW on a 24 hour basis.
	Payment of Fee	Guaranteed funds, cash, or via third party service provider.	EFT, debit accounts, or credit cards.
	Issuance of Credential	Paper: in person, by mail, by fax, service providers.	Via Fax or CATS to carrier, or vehicle, or weigh station site.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
Roadside Screening and Safety Enforcement **Department of Motor Vehicles and Division of State Police**	Method for Identifying Carrier ID, Vehicle, and Weight of Vehicle	Visual reading of carrier numbers. Slow speed weigh-in-motion (WIM) used at Union and Greenwich facilities.	Vehicle, carrier identified to roadside via DSRC or license plate readers. High-speed WIM to screen vehicles at mainline speeds.
	Screening Method	Visual observation of vehicle condition, etc. Pen-based mobile data terminals with ASPEN/ISS inspection/screening software for safety screening.	Additional deployment of pen-based mobile data terminals to inspectors. Expansion of mobile data communications via CDPD. Fixed site facilities also linked via landlines. Access to CCVIEW for carrier credential and safety information.
	Method for Recording Inspection Results	Pen-based mobile data terminals with ASPEN inspection software. CDPD link to safety databases.	Expanded use of pen-based mobile data terminals. ASPEN inspection software. CDPD link to safety databases.
	Method for Recording and Issuing Citations	Paper.	Electronically recorded on mobile data units, paper citation issued, CDPD transmittal of information to safety databases.
	Distribution of Inspection Results to Other Sites within the State	Via CDPD electronic messaging between inspection units, radios	SDMB. Use reports and snapshots via SAFER and CCVIEW.
	Distribution of Inspection Results to Other States	E-mail, radio.	Via CDPD and 800 MH radio, connectivity to SDMB, SAFETYNET, and other safety databases.

Figure 3 (Continued)
CVO Agency Functions and Potential Process Changes

FUNCTION	ACTION	CURRENT PROCESS	POTENTIAL ITS/CVO PROCESS
Traveler Information for CVO	Method of Collecting Information	Motorist cellular phone calls, police radio, DOT issued highway construction advisories	Motorist cellular phone calls, police radio, DOT issued highway construction advisories Additionally: loop detection, CCTV, traffic probe vehicles.
	Method of Distributing Information to Highway Operations Groups, emergency responders	Telephone, radio, I-95 Corridor Coalition Information Exchange Network (IEN).	Telephone, radio, IEN.
	Method of Disseminating Traveler Information to CVO	Governor's Telephone Hotline, commercial radio/TV stations, via Internet--Road Construction Advisory by DOT.	*FleetForward* program to deliver real-time traffic information to motor carriers' computer routing and dispatch systems.

7.0 Commercial Vehicle Operations in Connecticut

The motor carrier industry supports the economic well being of the State by providing the crucial intermodal link to rail, sea, and air transport facilities which make Connecticut a gateway to world trade. Recognizing the importance of trucking to the State, Connecticut has worked closely with the industry to rationalize the ways in which the industry is regulated and taxed. This close working relationship is a strong enabling force for the ITS/CVO technology deployment efforts underway in Connecticut.

7.1 Economic Importance of Commercial Vehicle Operations in Connecticut

Connecticut maintains a strong economy thanks to its extensive transportation system, high worker productivity, and balanced State government budget. The State is ranked first in the nation in several quality-of-life categories including education and per capita income. Within a 500-mile radius of Connecticut lies 28-percent of the United States population and 60-percent of Canada's population. More than 21 Fortune 500 hundred companies are based in the State. Connecticut's annual gross state product is $133 billion.

The backbone of Connecticut's economy is its world class public and private freight transportation systems. All of the State's major cities are linked by an interstate highway system that supports the country's largest concentration of companies providing bulk transport services for international shipping. This transportation system supports Connecticut's shipment of exports to 190 countries. Connecticut ranks 14th in the nation for per capita exports with $6 billion in annual sales. Trucks provide the integral link for the state's 570 miles of rail track, its two international airports, and three deep-water ports.

Connecticut's extensive transportation system is the primary reason that the State has maintained its business leadership role in the global economy. In 1995, trucks carried over 60 million tons, or 82 percent of all manufactured freight into and out of Connecticut and is forecast to increase to 65 million tons by the turn of the century.

Trucking exclusively serves 522 or 82.4-percent of all Connecticut communities. Trucking employs 113,908 people or 8.4-percent of all Connecticut employees. Annual payroll for trucking employees is approximately four billion dollars per year. Through personal expenditures, trucking industry workers circulate many more billions of dollars through the State's economy.

Connecticut highways are maintained and constructed with State and Federal funds collected from all highway users. Trucks pay a significant share of highway money in the form of fuel taxes, registration fees, truck mileage tax and highway use tax. While medium and large trucks account for only five-percent of total vehicle miles traveled in Connecticut and less than one-percent of all vehicle registrations, Connecticut-based owners of medium and heavy trucks pay $195 million or over 20-percent of all highway

State and Federal user taxes and fees. Of this, Connecticut receives approximately $111 million.

Moving into the next century, it is clear trucking will increasingly play a crucial role in the economic vitality of the State through job creation, infrastructure financing, and providing the freight link to the global economy.

7.2 Motor Carrier Preferences and Potential Participation in Connecticut ITS/CVO Services

Motor carriers tend to view ITS program elements as a natural extension of their current technologies. For example, many motor carriers currently transact business electronically with their customers via electronic data interchange and settle accounts via electronic funds transfer. A logical extension of this system would be the ability to conduct regulatory transactions with state agencies electronically.

The success of ITS/CVO programs will depend upon the voluntary participation by a large proportion of motor carriers. The carriers will participate only if they view the value of the programs to their operations as significant and exceeding any financial or other risks. Additionally, strong motor carrier participation requires government-sponsored electronic services to interface seamlessly with existing motor carrier systems and technologies.

To estimate the potential motor carrier participation in several envisioned Connecticut ITS/CVO services, it is necessary to know:

- what is the scope of motor carrier operations or transactions in Connecticut;
- what is the perceived value of envisioned ITS/CVO services to Connecticut motor carriers; and,
- what are the technical capabilities of Connecticut motor carriers.

The first factor is based on the distribution of Connecticut-based fleets presented in Figure 2—Motor Carriers and Trucks by Fleet Size. To determine the last two factors, approximately 1,500 small, medium, and large Connecticut motor carriers were mailed a survey questionnaire (Appendix C). The survey asked the motor carriers to:

- check off from a list the technologies they currently use;
- indicate the computers, operating systems, and software they use for administration of fleet registrations and fuel tax reporting;
- rank from one (no value) to five (very valuable) the value of possible ITS/CVO services to their operations—they had the option of answering N/A if a service did not apply to their operation (i.e., they did not require oversize/overweight permits) or “Don’t Know”; and,
- indicate preferred payment methods for electronic regulatory transactions.

172 companies, representing the broad diversity of trucking operations in Connecticut

completed the questionnaire. Figure 4 describes the demographics of the respondents.

Figure 4
Motor Carrier Survey Demographics

Fleet size	**Respondents**	**Percent of Total**
1 to 5 trucks	86	50%
6 to 19 trucks	40	24%
20 to 50 trucks	30	17%
51 to 100 trucks	7	4%
100 to 249 trucks	1	1%
250+ trucks	4	2%
Not indicated	4	2%
Total	**172**	**100%**
Range of Operations	**Respondents**	**Percent of Total**
Interstate Carriers	97	57%
Intrastate Carriers	56	32%
Not indicated	19	11%
Total	**172**	**100%**
Commodities Hauled	**Respondents**	**Percent of Total**
General Freight-Truckload	31	18%
General Freight-Less-than-Truckload	20	12%
Household Goods	12	7%
Parcel Delivery	5	3%
Automotive Parts	9	5%
Heavy Machinery	36	21%
Building Materials	25	14%
Bulk-Dump Truck	49	28%
Petroleum Products	17	10%
Farm Fresh Goods	4	2%
Processed Foods	4	2%
Retail Delivery	9	5%
Other	44	26%
Not indicated	0	0%
Total of Indicated Categories (more than one category indicated by some motor carriers)	**265**	

7.2.1 Motor Carrier Preferences for Connecticut ITS/CVO Services

The motor carriers responding to the questionnaire indicated the value of envisioned Connecticut ITS/CVO services to their businesses using a scale of one to five—one equals "no value", five equal "very valuable." Based on these responses, an average value was calculated for each the ITS/CVO services. The rankings for four of the functional services—oversize/overweight permitting, registrations, fuel tax credentialing, and fuel tax reporting—were based on subsets of the respondent sample.

The value placed on Electronic Application/Reception for Oversize/Overweight Permits was based on the responses from only motor carriers who require the permits. Values for the services—Electronic Registrations—New/Renewal/Supplemental; Electronic Fuel Tax Credentials Applications; and, Electronic Fuel Tax Filings—were calculated for interstate and intrastate motor carriers separately. This was done to account for the differing administrative and documentation requirements between the two subsets of motor carriers.

The services were then ranked according to the calculated average value to motor carriers. Figure 5 presents these rankings.

Figure 5
Connecticut Motor Carrier Ranking of ITS/CVO Services

Average Value Ranking	ITS/CVO Service	Average Value 1=no value; 5=very valuable	Total Respondents Who Ranked ITS/CVO Services
1*	Electronic Application/Reception for Oversize/Overweight Permits	3.63	52
2	Real-Time Access to Traffic and Road Conditions	3.49	147
3**	Electronic Registrations—New/Renewal/Supplemental **(IRP)****	3.38	97
4	Electronic Access to Motor Carrier Regulations	3.37	148
5**	Electronic Fuel Tax Quarterly Filings **(IFTA)****	3.31	97
6	Real-Time Access to Fleet's Safety Information	3.11	137
7	Roadside Clearance for Safe and Legal Carriers	3.01	127
8**	Electronic Fuel Tax Credentials Applications **(IFTA)****	2.95	98
9***	Electronic Registrations—New/Renewal/Supplemental **(Intrastate)*****	2.93	52
10***	Electronic Fuel Tax Filings-Affidavit **(Intrastate)**	2.59	51
11***	Electronic Fuel Tax Credentials Applications **(Intrastate)**	2.36	51

* Responses from only motor carriers who require oversize/overweight permits.
** Interstate carrier responses only.
*** Intrastate carrier responses only.

The results show that motor carriers hold the highest value for those services involving:

- relatively large numbers of transactions performed frequently;
- transactions requiring detailed documentation;
- access to information to improve their operations and safety management; and,

- access to one source for regulatory questions.

7.2.2 Potential Motor Carrier Participation in Connecticut ITS/CVO Services

Potential motor carrier participation was estimated for three time periods—near-term; intermediate-term; and, long-term. The following describes the three scenarios.

Near-Term Participation

The near-term is assumed to be the time period following full deployment of an ITS/CVO service in which motor carriers currently using technologies which would enable their participation would elect to use a service. This is also assuming that this level does not exceed the proportion of motor carriers perceiving a "high value" (four or five) for a service. The enabling technologies assumed for this analysis are:

- Electronic registrations, fuel licensing and tax filings—Electronic Data Interchange or Internet access.
- Roadside clearance—Dedicated Short-Range Communications-RF Tags.
- Access to safety and regulatory information—Electronic Data Interchange or Internet access.
- Access to real-time travel information—Electronic Data Interchange, Internet access, or cellular telephone.

Intermediate-Term

In the intermediate-term, no technology constraint is placed on participation. It is assumed that due to the rapidly declining cost of computer and communications systems and services, in the future significantly greater numbers of motor carriers will either be regularly using the enabling technologies in their business or may be willing to purchase them to participate in ITS/CVO services. The near-term estimates are based on the proportion of motor carriers who valued the services at four or five.

Long-Term

In the long-term, it is assumed that value perceptions of ITS/CVO services will rise—more motor carriers will view a service as valuable to their business. Therefore, the long-term estimates are based on the proportion of motor carriers who valued the services at three, four, or five.

Estimation Methodology and Other Supporting Assumptions

It is also assumed that the respondent perceptions are representative of all Connecticut-based motor carriers, or the appropriate subsets thereof (i.e., interstate versus intrastate motor carriers for registrations, fuel credentialing and tax filings). The perceived values

for the envisioned ITS/CVO services were tallied for small (one to 50 trucks), medium (51 to 100 trucks), and large (greater than 100 trucks) carriers.

These were used to estimate participation by each size group, then aggregated. This was done to account for varying perceptions based on fleet size and to avoid skewing the results based on a distribution of carriers in the sample different than the population of Connecticut-based carriers.

The exception is intrastate motor carrier perceptions for electronic registration and fuel tax licensing and filings. This is because subdividing the sample would provide too few observations in some categories to be deemed representative, therefore no fleet size differential is considered.

The estimates are represented in terms of fleets and trucks for Connecticut-based motor carriers only, though many ITS/CVO services will be available or impact out of state motor carriers traveling through Connecticut. The exception is electronic oversize/overweight permitting in which estimated participation is expressed in numbers of transactions from all carriers requiring an oversize/overweight permit.

The nearly 2,000 motor coaches registered in Connecticut are not specifically represented in this analysis, but through discussion with motor coach representatives, it was found that many of the value perceptions held by trucking operators are valid for their operations.

Figure 6 details the value perceptions and technical capabilities of the survey respondents. The estimates for motor carrier participation in Connecticut ITS/CVO services is provided in Figure 7.

Figure 6
Motor Carrier Value Perceptions and Use of Enabling Technologies

Electronic Registrations—New/Renewal/Supplemental (IRP)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	25%	36%	52%
Medium	33%	50%	75%
Large	50%	75%	80%
Electronic Registrations—New/Renewal/Supplemental (Intrastate)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
All Sizes	11%	36%	56%
Electronic Fuel Tax Credentials (IFTA)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	25%	34%	53%
Medium	33%	33%	33%
Large	50%	75%	75%
Electronic Fuel Tax Credentials (Intrastate)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
All Sizes	11%	34%	52%
Electronic Fuel Tax Quarterly Filings (IFTA)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	25%	48%	55%
Medium	33%	40%	40%
Large	50%	50%	75%
Electronic Fuel Tax Filings-Affidavit (Intrastate)			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
All Sizes	11%	26%	42%

Figure 6 (Continued)
Motor Carrier Value Perceptions and Use of Enabling Technologies

Electronic Application/Reception for Oversize/Overweight Permits			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	18%	45%	60%
Medium &Large	33%	80%	80%
Roadside Clearance for Safe and Legal Carriers			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	5%	31%	52%
Medium	17%	50%	50%
Large	17%	50%	50%
Electronic Access to Motor Carrier Regulations			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	25%	42%	53%
Medium	33%	75%	75%
Large	50%	60%	60%
Real-time Access to Fleet's Safety Information			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	25%	35%	52%
Medium	33%	75%	75%
Large	50%	60%	60%
Real-time Access to Traffic and Road Conditions			
Fleet Size	**Current Use of Enabling Technology**	**Percent of Carriers Perceiving High Value (4 or 5)**	**Percent of Carriers Perceiving Mid-to-High Value (3, 4, or 5)**
Small	81%	48%	59%
Medium	63%	88%	88%
Large	60%	60%	60%

Figure 7
Estimated Motor Carrier Participation in Connecticut ITS/CVO Services
Based on Motor Carrier Value Perspectives and Technical Capabilities

	Near-Term Participation Estimate Carriers Now Using Enabling Technologies		Intermediate-Term Participation Estimate Carriers Perceiving High Value-4 or 5		Long-Term Participation Estimate Carriers Perceiving Mid-to-High Value (3, 4, or 5)	
ITS/CVO Service	**Fleets**	**Trucks**	**Fleets**	**Trucks**	**Fleets**	**Trucks**
Electronic IRP and IFTA Credentials and Filings	450 25%	3,500	600-800 34-48%	4,000-5,000	950 52%	6,100-6,500
Electronic Intrastate Registration and Fuel Tax Credentials/Filings	1,000 11%	2,000	2,300-3,200 26-36%	4,300-6,000	3,700-5,000 42-56%	7,000-9,500
Electronic Application/Reception For Oversize/Overweight Permits*	18,000 Transactions*	18%	47,000 Transactions*	47%	56,000 Transactions*	56%
Roadside Clearance for Safe and Legal Carriers	500 5%	2,100	3,300 31%	9,600	5,500 52%	14,000
Electronic Access to Motor Carrier Regulations	2,600 25%	8,000	4,400 42%	12,600	5,600 53%	15,100
Real-Time Access to Fleet Safety Information	2,700 25%	8,000	3,770 35%	11,300	5,500 52%	14,800
Real-Time Access to Traffic and Road Conditions	5,100 48%	14,200	5,100 48%	14,200	5,100 48%	14,200

* Annual number of transactions includes transactions from out-of-state motor carriers.

The time frames representing near- and far-term participation estimates will vary depending upon the ITS/CVO service. Primary factors in realizing full market potential and maximizing the rate of market penetration will include:

- the early demonstration and advertisement of service functionality and value to motor carriers;
- synergies created through bundling of services (i.e., one-stop electronic credentialing);
- synergies created through regional and national deployment of ITS/CVO;
- cost effectiveness;
- multiple modes for technical access (i.e., EDI or Internet for electronic credentialing, or EDI, Internet, or cellular phone for travel information); and,
- assurances of security and limits of use for motor carrier data.

The ITS/CVO services estimated to have the highest initial and potential participation are those that are strictly informational—access to information about travel conditions, fleet

safety performance, and motor carrier rules and regulations. Realizing potential motor carrier participation could be rapid due to the relatively low cost of enabling technologies, low business risks, and medium to high benefits in terms of enhanced fleet operations and safety management, improved regulatory compliance, and reduced administrative burdens.

Participation in the electronic credentialing services for fleet registration, fuel tax administration, and oversize/overweight permitting can be expected to be modest at first, then developing rapidly towards full potential. Similar to the informational ITS/CVO services, technology costs and business risks are low. Low to medium benefits in terms of reduced administrative costs can be expected. The automated oversize/overweight permitting service may move towards full potential faster than the other credentialing services due to elimination of third-party service fees.

A choice of payment options for fees and taxes will also make the electronic credentialing/tax administration service more attractive to motor carriers. The survey respondents were asked to check off the payment options they would prefer to use. The following choices were indicated by 155 respondents:

- 38 percent are not interested in electronic payments;
- 29 percent would use a credit card;
- nine percent would use debit accounts;
- 22 percent would use electronic funds transfer; and,
- two percent indicated they would be interested in other options.

Participation in Roadside Clearance, enabled by dedicated short-range communications, is expected to be low initially and will require a significantly longer time period than other ITS/CVO services for motor carrier participation to grow. Participation could be constrained due to varied business impacts of roadside inspections to motor carriers, cost and singularity of function of RF tags for intrastate motor carriers (no toll facilities in Connecticut), lack of DSRC standards, and regulatory risks.

8.0 Benefits and Costs of ITS/CVO

Several studies have been conducted in which the potential benefits and costs of ITS/CVO programs have been described. Two studies have systematically assessed benefits and costs to motor carriers and state agencies. These are:

- **Motor Carrier Assessment**—*Assessment of Intelligent Transportation Systems/Commercial Vehicle Operations User Services: ITS/CVO Qualitative Benefit/Cost Analysis*—ATA Foundation, June 1996; and,

- **State Agency Assessment**—*Budgetary Implications of ITS/CVO for State Agencies, State Processes for Commercial Vehicle Operations*—Apogee Research, Castle Rock Consultants, and Center for Transportation Research and Education—National Governors' Association—November 1997.

The executive summaries for these two studies are contained in Appendix D.

The ATA Foundation-led research developed ranges of benefit/cost ratios based on ITS/CVO services reducing the costs of regulatory compliance for motor carriers. Potential operational and safety benefits were qualified in the study and are being quantified in current ATA Foundation research.

The study showed that motor carriers have embraced a broad range of high technologies to increase operational efficiency and improve safety. Based on a survey of 700 motor carriers and supported by a 36-member Technical Working Group (comprised of motor carriers, technologists, and government regulatory specialists) the effort calculated the high costs of regulatory compliance for motor carriers. For example, paperwork costs can reach $918 per truck per year, and driver time on logs can cost $2,600 per year.

Performance improvements in non-regulatory motor carrier activities made through technology, allowed estimation of the potential benefits of applying said technology to the regulatory process. The study shows the greatest benefits to motor carriers are expected to come from the simplification of regulatory requirements; the ability to conduct transactions with government agencies electronically; access to real-time travel information to improve routing and dispatching; and the targeting of high-risk operators for roadside safety inspections rather than the general motor carrier population.

The study calculated the following range of ITS/CVO services benefit/cost ratios for motor carriers:

- CVO Administrative Processes-(2.0:1 to 19.8:1)
- Electronic Clearance-(0.0:1 to 7.5:1)
- Automated Safety Inspections (positive benefits with no direct motor carrier costs)
- Automated Hours of Service Reporting and Verification-(1.1:1 to 1.6:1)

- On-Board Safety Monitoring-(<0.1:1 to 0.5:1)
- Collision Avoidance-(undetermined)
- Hazardous Materials Incident Response-(0.4:1 to 3.0:1)
- Freight Mobility (enhanced fleet management)-(1.5:1 to 5.0:1)

While the envisioned enhancements hold promise, the study framed several motor carrier concerns about mandates, equity, and privacy.

The National Governors' Association-sponsored study examined the potential benefits and costs of ITS/CVO to state agencies for eight case-study states. These include California, Colorado, Connecticut, Delaware, Florida, Kentucky, Minnesota, and New Jersey. These states were selected for study to create base-line representations for other states.

The study developed benefit/cost assessments for each state for electronic permitting services and roadside management services (safety/credential information systems and weigh-in-motion technologies). The ratios were developed for two deployment scenarios—aggressive and conservative deployment scenarios. A ten-year horizon was used for the calculations.

The estimated benefit/cost ratios for the Connecticut case study were as follows:

- Electronic Permitting/Credentialing:
  - Conservative Deployment (2.06:1 to 2.5:1)
  - Aggressive Deployment (2.09:1 to 2.54:1)

- Automated Roadside Management
  - Conservative Deployment (0.02:1 to 0.04:1)
  - Aggressive Deployment (0.02:1 to 0.05:1)

The calculated range of benefit/cost ratios in the two studies are not inclusive of all potential benefits and costs of ITS/CVO deployments. For example, the calculations for Automated Roadside Management services in Connecticut indicate that these programs can not be justified on state savings alone. A significant benefit not included in the analysis was value of accidents that may be avoided through coordinated safety enforcement efforts.

Leon M. Moses and Ian Savage in their analysis—*A Cost Benefit Analysis of United States Motor Carrier Safety Programs,* Journal of Transport Economics and Policy (Vol. 31, #1)—concluded that carrier review/educational contact programs could have benefit/cost ratios of 4:1, while roadside inspection programs show a 1:1 ratio.

These calculated benefit/cost ratios do not address the possible synergies of the two types of programs or potential process improvements within the context of ITS/CVO. For example, technology enhanced inspection data collection/analysis and enforcement targeting of high-risk carriers could directly support the development and delivery of

specialized educational programs to address deficiencies in motor carriers' safety management.

The Connecticut ITS/CVO programs recognize the value and potential payback for ITS/CVO services and have structured deployments to maximize value for all stakeholders.

9.0 Current and Planned Connecticut ITS Projects

The Connecticut approach to ITS/CVO is to develop and test new ITS solutions, implement promising solutions, leverage national and regional ITS/CVO advancements, and provide technical and procedural guidance to neighboring states. This approach maximizes the cost effectiveness of deployments and assures compatibility with the FHWA-sponsored National ITS Program.

The several ongoing and planned initiatives in Connecticut supporting the ITS/CVO goals and objectives presented in Section 4 of this Business Plan. The objectives and deployment timetables for these projects closely align with motor carrier preferences for ITS/CVO services detailed in Section 7. This alignment reflects the longstanding working relationship between Connecticut agencies and motor carriers and will enhance the overall value of the Connecticut ITS/CVO program to stakeholders. These projects include:

- The Connecticut CVISN Model Deployment Program (CCVISN).
- The Connecticut High Efficiency Licensing Program (HELP).
- Three FHWA funded ITS/CVO field operational tests (FOTs) developed through the I-95 Corridor Coalition. These are:
    1. ***FleetForward***—Advanced Traveler Information System for Commercial Vehicle Operations—FOT 6;
    2. Roadside Safety Assurance—FOT 7; and,
    3. Coordinated Safety Management—FOT 10.
- Incident Management Enhancement Projects (IM)—listed projects are not all inclusive.

The linkage of these initiatives to the Connecticut ITS/CVO objectives are illustrated in Figure 8. The project objectives, funding, and timetables for deployment are illustrated in Figure 9 and summarized in the following text. Appendix E contains detailed project plans and information regarding the I-95 Field Operational Tests and HELP.

Figure 8
Linkage of Connecticut ITS/CVO Initiatives to
ITS/CVO Objectives

	Initiative					
ITS/CVO Objective (Need)	**CCVISN**	***FleetForward* FOT 6**	**FOT 7**	**FOT 10**	**HELP**	**IM**
Improve motor carrier compliance with safety regulations and expand best practices in safety management.			**X**	**X**	**X**	
Expand motor carriers' real-time access to fleet safety information (i.e., roadside inspection results, motor carrier regulations, etc.).	**X**		**X**	**X**	**X**	
Deploy roadside technologies and information to identify and focus enforcement on high-risk motor carriers.	**X**		**X**	**X**		
Automate the demonstration/verification of safety compliance.	**X**		**X**	**X**		
Reengineer agency administrative procedures and data requirements.	**X**				**X**	
Automate credentialing activities—acquisition, reporting, and payments.	**X**				**X**	
Implement advanced mapping technologies for automated oversize/overweight routing and permitting.	**X**					
Support development of Advanced Traveler Information Systems (ATIS/CVO) to reduce the impact of traffic congestion on motor carrier operations.		**X**			**X**	**X**
Support open standards for dedicated short-range communications (DSRC) for traffic management and automated safety screening.	**X**	**X**	**X**			**X**

Figure 9—Connecticut ITS/CVO Project Summary

Project	Project Description	Objectives	Lead	Funding
CCVISN Begin: 9/97 End: 12/99	Demonstrate CVISN architecture at a few sites for a limited number of motor carriers in Connecticut.	Demonstrate the following capabilities: 1. Interface CT systems to IRP and IFTA Clearinghouses. 2. Provide electronic registration & fuel tax credentialing and fuel tax filings to a limited number of motor carriers. 3. Establish the system/network architecture for electronic application/reception for oversize/overweight and other permits. 4. Distribute safety/credentials information to roadside enforcement officials. 5. Perform electronic clearance at fixed and or mobile inspection sites. 6. Electronically collect roadside inspection data and upload to safety databases.	CT DMV	$1,044,000 FHWA CVISN Grant; $1,044,008 State/motor carrier match for primary capabilities milestones. Additional $1,000,000 is anticipated to be required for out-year deployment.
High Efficiency Licensing Program Begin: 3/98 End: 7/98-forms and information posting only	Creation of a state-wide Internet-based one-stop shopping site to provide customers access to all licensing and permitting activities across Connecticut State government	Initial deployment: 1. Enable Internet access to regulations and agency forms for downloading. Later functionality: 2. Technical support for participating agencies' IT upgrades to enable electronic one-stop licensing and permitting.	CT Economic Resource Center; Office of Policy Management; Department of Information Technology	Funded by CT Office of Policy and Management Funding for agency system upgrades undefined

Figure 9 (Continued)—Connecticut ITS/CVO Project Summary

Project	Project Description	Objectives	Lead	Funding
***FleetForward* FOT 6** Begin: 6/97 End: 12/99	Improve motor carrier operational efficiency; assist motor carriers in avoiding roadway congestion; and, enhance safety of the Region's roadways.	1. Expand the current knowledge base of the information needs of motor carriers operating in the I-95 Corridor Coalition states. 2. Access existing information sources and sources being developed, to test the manipulation of data to formats most useful to the motor carriers. 3. Test the dissemination of information to motor carriers via several communications media. 4. Evaluate the effectiveness of the information and delivery modes for improving motor carrier routing and dispatching. 5. Assess overall potential motor carrier usage of real-time travel information for fully deployed ATIS-CVO. 6. Outreach to the motor carrier industry.	ATA Foundation-Northeast Transportation Institute	$750,000 FHWA-Sponsored grant via I-95 Corridor Coalition; $250,000 private sector match.
FOT 7 Roadside Safety Assurance Begin: 11/97 End: 6/98	Purchase and deployment of additional mobile data terminals, software, communications services in support of roadside safety information exchange.	1. Expand mobile real-time access to safety and enforcement databases (SAFER, SAFER Data Mail Box, NCIC, NLETS, CDLIS; and ability to communicate with other mobile units.	CT DMV	$145,000 FHWA-sponsored grant via I-95 Corridor Coalition
FOT 10 Coordinated Safety Management Begin: 6/98 End 6/00	FOT 10 will utilize safety information and strategies of state enforcement personnel and motor carrier safety managers to develop education and outreach programs designed to advance roadway safety. Successful enforcement and motor carrier safety practices and procedures will be analyzed, cataloged, and promulgated to develop a model for regional coordination of enforcement procedures and motor carrier education.	1. Support development of roadside information technologies and strategies to identify and focus enforcement on high-risk motor carriers. 2. Improve motor carrier awareness of safety regulations and effective motor carrier safety assurance practices. 3. Support motor carrier access to fleet safety information to improve their safety management.	ATA Foundation-Northeast Transportation Institute with: PennDOT CT DOT CT DMV NYSDOT	$300,000 FHWA-sponsored grant via I-95 Corridor Coalition

Figure 9 (Continued)—Connecticut ITS/CVO Project Summary

Project	Project Description	Objectives	Lead	Funding
IM 1 End: 8/98-form End: not defined for Internet link	Development of SQL-based form for TOC operators to enter highway incident information for transmission to the TRANSCOM Regional Architecture system, I-95CC IEN, and various traveler information distribution channels.	1. Develop SQL-based incident reporting form.	CT DOT	FHWA funded
IM 2 End: 12/98, if funded	Modification of Hartford area radar detection system to provide graphical travel speed information over CT DOT web site.	1. Enable the motoring public Internet access to graphical travel speed information for the Hartford area.	CT DOT	Currently not funded
IM 3 End: 8/98	Installation of OC-3 (154 megabit/second communications links between Newington TOC and Bridgeport TOC, and City of Hartford and State Police.	1. Establish coordinated incident management through linking the two TOCs. 2. Provide TOC access to 35 Hartford area video cameras.	CT DOT	$150,000 Currently not funded
IM 4 To be determined	Provide media access to Bridgeport's 91 video camera feeds and post feeds to Internet	1. Expand public access to traffic information.	CT DOT	Funding undefined
IM 5 End: 12/98	Installation of nine digital highway advisory radio transmitters, linked by SONET and frame-relay communications system.	1. Expand dissemination of traffic information to motorists.	CT DOT	$2,000,000 FHWA CTDOT
IM 6 End: 12/01	Installation of video cameras, variable message signs, and traffic flow monitoring stations in key sections of I-84, I-91, and Route 2 in the Hartford area.	1. Expand statewide incident detection/management capabilities.	CT DOT	Connecticut State funded
IM 7 To be determined	Statewide Computer-Aided-Dispatch system for State Police, with CT DOT links to system	1. Improve incident response capabilities of CT State Police 2. Real-time notification of CTDOT of incidents.	CT State Police CT DOT	Funding undefined
IM 8	Participation in TRANSCOM Regional Architecture Program.	1. Develop procedures and infrastructure to enhance incident management information (including I-95 travel speeds, VMS and HAR messaging) to TRANSCOM agencies.	TRANSCOM	FHWA funded

9.1 Connecticut CVISN (CCVISN)

This two-year, two million dollar, public/private effort will establish electronic linkages allowing exchange of motor carrier information between Connecticut agencies, regional CVO clearinghouses, and national CVO databases. Additionally, the program will establish the communications and computer infrastructure to enable electronic transactions and information exchange between a limited number of motor carriers and the Connecticut CVO agencies. The CCVISN model deployment program is 50 percent funded by an FHWA grant, and an equal amount of match by the State of Connecticut and the motor carrier industry.

The executive decision-maker for CCVISN is the Commissioner of the Department of Motor Vehicles. The Commissioner, or his designee, is also the chair of the Connecticut Motor Carrier Advisory Council which acts as the Steering Committee for CCVISN. Project teams for the four CCVISN program areas are staffed by technical and management representatives from participating agencies and the motor carrier industry. The effort is also supported by a CCVISN Technical Coordinator and CCVISN Management Coordinator to develop and assure maintenance of project goals and synchronize Connecticut's efforts with Johns Hopkins University Applied Physics Laboratory (JHU/APL).

The four primary program areas and associated goals included in CCVISN are:

1. **Vehicle Registration Credentials**—establish an electronic vehicle registration credentials system, to accept motor carriers' carrier/vehicle registration information and fees, and include an interface to the International Registration Plan (IRP) clearinghouse.

2. **Carrier Fuel Tax Credentials and Tax Filings**—establish an electronic fuel use tax credentials and tax filing system, to accept motor carriers' carrier fuel use tax information and fees, and include an interface to the International Fuel Tax Agreement (IFTA) clearinghouse.

3. **Electronic Safety and Credentials Information Exchange**—establish and maintain an integrated electronic state-regional-national credentials and safety data exchange network, from which high-risk carriers can be targeted for inspection, and to enable electronic carrier status verification in support of carrier/agency electronic credentials transactions.

4. **Roadside Electronic Screening, Clearance, and Inspection**—electronically retrieve credentials and safety snapshots for screening and clearing vehicles at roadside fixed/mobile sites and to electronically collect and upload the inspection data to the state-regional-national credentials and safety data exchange network.

Additional CCVISN capabilities will include development of the network infrastructure to enable electronic application/reception for oversize/overweight and radioactive materials transport permits. Significant upgrades to the current DOT oversize/overweight permitting system are required to enable a fully functional automated service. These upgrades include: integration with GIS mapping of bridge specifications; integration with state incident management systems; automated routing and electronic payment capabilities; and, links to roadside mobile and fixed enforcement units and other state DOTs. Currently, these upgrades are being scoped.

To meet the CCVISN model deployment objectives in a timely and cost-effective manner, the deployment strategy is to:

- evaluate the functionality and performance of CVISN core products (enabling software and systems developed by from CVISN support vendors under direction of FHWA Office of Motor Carriers);
- assess the technical and economic feasibility of customizing core products; and,
- modify, deploy, and test as much of the core product functionality as feasible.

Based on this strategy, capabilities deployment schedules and project budgets were developed using available projections of Connecticut personnel capacity; availability dates for fully functional enabling core products; level of technical support from JHU/APL and other CVISN pilot and model deployment states; and, funding commitments. These can be found in the Connecticut CVISN Project Plan, dated October 31, 1997. The projected deployment schedule is summarized in Figure 10.

During the first quarter of 1998, the CCVISN project team identified a significant shortfall in projected personnel capacity to conduct the necessary implementation tasks for the model deployment effort. This projected shortfall is due to severe agency personnel attrition and redeployment to support agency efforts with Year 2000 compliance. In response, the CCVISN team immediately began investigating the feasibility of outsourcing many of the activities. To the team were added agency procurement experts to provide guidance in contracting issues and development of a Request for Proposals (RFP) for technical services.

Further complicating deployment efforts is that functionality of several of the core products have not been fully developed. The team began an exhaustive review of capabilities of other states' systems to identify transferable technology, determine the degree of modifications required to meet the goals of CCVISN, and to assess the capabilities of third party developers supporting the agency systems. The team has begun discussions with several vendors prior to issuance of the RFP.

The projected timeframe for issuance of the RFP is June 1998. Vendor selection is expected in August 1998. The vendor will conduct a six-week systems analysis and present a deployment plan (Phase I). Phase II—deployment can be expected to begin in the fourth quarter of 1998. At the time of this writing, the impacts of the outsourcing

approach on the timing of specific capabilities deployment are not defined, but confidence is high that the objectives of CCVISN will be met in a timely manner.

Motor carrier outreach will be closely coordinated between Connecticut agencies, Motor Transport Association of Connecticut, and the Northeast Transportation Institute.

Figure 10
October 1997
Connecticut CVISN Capabilities Deployment Schedule

Program Area	Deployment Date
Vehicle Registration Credentials	
Interstate Vehicle Registration	IQ 1999
IRP Electronic Funds Transfer--EFT	IQ 1999
Single State Registration System (SSRS) Applications	IQ 1999
Intrastate Vehicle Registration	IVQ 1999
Intrastate Vehicle Registration EFT	IVQ 1999
Carrier Fuel Tax Credentials and Tax Filings	
IFTA EFT	IIQ 1999
IFTA Credentials	IIQ 1999
IFTA Tax Filings	IIQ 1999
Other Electronic Credentials	
OS/OW & Radioactive Permits	IQ 1999
HazWaste Permits (if economically feasible)	IIQ 1999
Roadside Screening, Clearance, and Inspections	
Interstate and Intrastate State Credentials and Safety Roadside Screening	IIIQ 1998
Weigh Station Clearance	IVQ 1999

Outreach will include articles, brochures, interactive media—compact disk or Internet. Overview materials will be widely distributed to Connecticut motor carriers. Topic specific materials will be developed and distributed to motor carriers focusing on how CCVISN can meet their specific business needs. Early successes and motor carrier testimonials will be publicized. Incentives for motor carrier participation will also considered. This approach will assure early participation across a wide spectrum of potential users and enable as rapid development of the market as possible.

9.2 Connecticut High Efficiency Licensing Program (HELP)

HELP is a State of Connecticut initiative to create a customer-focused service delivery structure, supporting licensing and permit functions across state agencies. The principal access method for customers will be the Internet through a single port of entry or site. This effort is being led by the Connecticut Office of Policy Management and supported by the Department of Information Technology.

By July 1998, HELP will include a master listing of all permitting agencies on the Connecticut State website with links to specific agency sites or centralized library. Information concerning permit requirements and regulations will be available, as will permit or license application forms for downloading. Enhancements to HELP are expected to include the capability to electronically apply for, receive, and pay for permits and licenses. The degree of funding support for agency system upgrades through HELP is still undefined.

Though HELP is not CVO specific, the capabilities developed through HELP could support information dissemination to motor carriers (i.e., rules and regulations, best practices in safety management, real-time travel information) as well as, support electronic credentialing efforts being developed through CCVISN.

9.3 Advance Traveler Information System for Commercial Vehicle Operations—*FleetForward*—FOT 6

FleetForward (FOT 6) is a two-year, three phase operational test, coupling real-time traffic information with motor carriers' routing and dispatch decisions. The *FleetForward* goals are: improve the operational efficiency of motor carriers in the Northeast; assist motor carriers in avoiding areas of roadway congestion; and, enhance the safety of the region's roadways.

FleetForward is funded by a $750,000 FHWA grant via the I-95 Corridor Coalition and $250,000 in private sector match. This operational test is led by the ATA Foundation's Northeast Transportation Institute in partnership with the following organizations:

- Federal Highway Administration
- New Jersey Department of Transportation
- Motor Transport Association of Connecticut
- Massachusetts Motor Transport Association
- Pennsylvania Motor Truck Association
- National Private Truck Council
- ALK Associates
- International Business Machines
- Navigation Technologies
- SmartRoute Systems
- TMW Trucking Systems
- TRANSCOM

- Qualcomm

FleetForward benefits from the guidance of the I-95 Corridor Coalition CVO Operations Technical Review Committee.

Phase I (Pre-Test Investigation) began in IIQ 1997 and will conclude in IIQ 1998. The primary activities of Phase I are: establish the ATIS-CVO organization; identify motor carrier needs; use existing travel information sources and dissemination techniques; evaluate impact of information on motor carrier operations; and, identify the technological requirements for expanded data fusion and dissemination capabilities.

Phase II (Operational Test) will begin IIQ 1998 and conclude IVQ 1998. Phase II activities include: develop the ATIS-CVO architecture; investigate additional information sources; expand motor carrier participation; conduct motor carrier operational impact analysis; and, evaluate *FleetForward* to determine continuance to Phase III.

During Phase II, *FleetForward* will incorporate information from the I-95 Corridor Coalition Information Exchange Network (IEN) and metropolitan area traffic information sources into motor carrier routing and dispatching operations. The intercity effort will include motor carriers operating in the northeast region of the corridor. Fleet managers will have direct access to the Coalition's IEN and information on potential impediments to their operations across the region. The metropolitan area test will assess the information from SmartRoutes in the Boston area via cellular phones and the Internet.

Phase III (Expanded ATIS-CVO Service) will begin in IVQ 1998 and conclude in IVQ 1999. During Phase III, metropolitan-area travel information sources throughout the I-95 Corridor Coalition states (including information from Connecticut's Bridgeport and Newington Traffic Operations Centers) will be included in the operational test. Also during this phase, further information filtering and dissemination capabilities will be developed and incorporated into the architecture. Market estimates will be developed for fully deployed ATIS-CVO. Extensive motor carrier outreach will then be conducted.

Effectiveness of *FleetForward* can be measured in terms of improved operational efficiency of motor carriers by:

- establishing sensitivities of cost components to operational objectives;
- examining operational efficiencies of dynamic routing and scheduling;
- examine marginal impacts on sensitivities of real-time travel information; and,
- model motor carrier response to incidents.

Effectiveness in terms of improved highway operations could be measured in the number of commercial vehicles removed from queue during incidents.

9.4 CVO Roadside Safety—FOT 7

Connecticut will enhance roadside CVO enforcement by expanding information exchange from and to MCSAP inspectors in the field, thus allowing inspectors to focus enforcement on high-risk carriers.

The DMV-CVSD currently uses pen-based laptop computers installed with ASPEN/ISS software and linked to Bell Atlantic's Cellular Digital Packet Data network. This configuration enables mobile real-time access to safety and enforcement databases (SAFER, SAFER Data Mail Box, NCIC, NLETS, CDLIS; and provides the ability to communicate with other mobile units.

In November 1997, DMV-CVSD received funds to acquire additional laptop computers and associated hardware/software from FHWA via the I-95 Corridor Coalition. Deployment is expected to be complete during late spring 1998. Similarly, funding requests from neighboring Rhode Island and Massachusetts were approved. DMV-CVSD is providing technical support to the Rhode Island and Massachusetts State Police to maximize the effectiveness of this program through a regional enforcement approach.

This effort is guided by the I-95 Corridor Coalition CVO Safety Technical Review Committee.

9.5 Coordinated Safety Management—FOT 10

The goal of FOT 10 is to improve roadway safety and promote efficiencies in CVO enforcement and motor carrier demonstration of safety compliance. FOT 10 will utilize best new safety information and systems by state enforcement personnel and motor carrier safety managers to advance roadway safety. Current enforcement and motor carrier safety practices and procedures will be evaluated, enhanced, and promulgated to develop a model for regional coordination of enforcement procedures and motor carrier education.

This $300,000, two-year program is funded by FHWA via the I-95 Corridor Coalition. FOT 10 will be conducted as a partnership between CVO enforcement agencies in Connecticut, New York, and Pennsylvania; the ATA Foundation's Northeast Transportation Institute, the National Private Truck Council, and the respective state trucking associations; and, supported by the University of Pennsylvania and University of Connecticut. Specific partner roles and contract issues are currently being finalized. This effort is expected to begin in June 1998.

Pennsylvania Department of Transportation (PennDOT) will be the lead-funding agency for FOT#10. Pennsylvania State University (PSU) under cooperative agreement with PennDOT will be responsible for administrating the contract and participating in several tasks. The ATA Foundation is responsible for FOT#10 project management and coordination.

An FOT#10 Steering Committee will be staffed to provide oversight and review for this effort. These volunteers will include members of working groups supporting development of the ITS/CVO business plans in the three participating states.

The FOT#10 Project Administrator is Dennis E. Lebo, Assistant to the Deputy Secretary for Planning, Pennsylvania Department of Transportation. The FOT#10 Project Manager and Principal Investigator is Robert D. Pritchard, Executive Director, ATA Foundation--Northeast Transportation Institute. This effort is guided by the I-95 Corridor Coalition CVO Safety Technical Review Committee.

The objectives of FOT-10 will be accomplished through the following six tasks:

1. Establish a multi-state industry/enforcement/university CVO Working Group to provide oversight to the effort;
2. Develop coordinated regional policies, procedures, and implementation strategies for identifying high-risk carriers;
3. Design of Safe-CVO model;
4. Develop, deliver, and test safety management and compliance educational materials and programs for motor carriers;
5. Evaluation and outreach;
6. Project management administrative activities.

9.6 Incident Management Enhancement Projects

Connecticut DOT is actively pursuing many projects in support of enhancing incident management in the state and region. These projects involve developing high-capacity communications links, installation of remote traffic flow monitoring equipment, expanded variable message signage and highway advisory radio coverage, graphic presentation of travel speed for dissemination via Internet, development of state-wide computerized dispatch capabilities for the State Police with links to DOT for improved incident notification, and coordination with ATIS/ATMS initiatives in the region. Several of these projects are pending funding.

The richness and timeliness of traffic information developed through these IM enhancement projects hold promise for improving the effectiveness of *FleetForward* during Phase III of the project.

10.0 Deployment Issues

There are several issues being addressed within each of the ITS/CVO projects described in Section 9. These are summarized in Figure 11. The issues can be categorized as technical, procedural, resource, or organizational issues.

Technical issues involve availability of enabling systems; technical standards; functionality of state legacy systems; data security; and, development of systems capabilities external to systems in Connecticut (i.e., New York Regional Processing System, IFTA and IRP clearinghouses, Federal safety databases, etc.). The functionality of legacy systems is an overriding concern in the deployment of automated credentialing systems in Connecticut. For example, the current Connecticut Department of Transportation oversize/overweight permitting system can not support full end-to-end electronic application/issuance of permits. Improvements to the system would require the development of two-directional bridge clearance data, bridge weight restriction data, and incorporation of route restrictions due to road construction; and, the data processing capabilities to reference these data for automated route approvals.

Procedural and organizational issues are those that involve legal requirements (such as original signatures on documents); agency operating procedures and mission constraints; agency data requirements; interagency data sharing and coordination of deployment efforts; agency priorities; etc.

Resource issues involve allocation of agency personnel, overall project funding and budget, technical and management support from agencies external to Connecticut, and private sector financial constraints. The ITS/CVO initiatives described in section 9 do not directly address the resource requirements for several enabling legacy system upgrades (i.e., upgrades to the State's oversize/overweight permitting system). To realize the goals of the Connecticut ITS program, the resources needed for legacy system upgrades must be identified and secured.

Resolution of many of the issues pertaining to Connecticut ITS/CVO deployment will be achieved through:

- Active participation in several forums for open discussion, consensus building, and resolution of issues (the Connecticut Motor Carrier Advisory Council; CCVISN team and project status meetings; CVISN Planning and Review Forums hosted by JHU/APL; I-95 Corridor Coalition; Commercial Vehicle Safety Alliance; AAMVA; National Governors' Association; and, ITS America).

- The strong cooperative working relationships between agencies and organizations within and outside of Connecticut, and between the agencies and motor carriers.
-

- The high level of commitment to reengineer the way Connecticut conducts the business of government.

- Outreach to motor carriers, agency staff, and general public.

Figure 11—Connecticut ITS/CVO Deployment Issues

Issues	Technical	Procedural	Resource	Organization
Active industry participation in development and use of systems				X
Active participation and coordination with all involved state agencies				X
Evaluation of total project cost effectiveness.			X	
Legal acceptance of electronic forms/signatures.		X		
Privacy/data access restrictions.		X		
Coordination of agencies' procedures/data requirements.		X		X
Privatization of State of Connecticut information services.	X	X	X	X
DRS reorganization.		X		X
Continuity of commitment from state and federal administrations	X		X	
Whether or not to charge transactions fees.		X	X	
Resources beyond current federal/state funding.			X	
Vendor development of intrastate credentials software modules for CATS.	X			
Assistance regarding CVIEW Beta release modifications and related development costs.	X		X	
Ongoing operational costs of systems/networks.			X	
Availability of necessary staff resources.			X	
Availability and costs of interoperable systems (e.g. CATS, CI, ASPEN, SAFER, CVIEW, UCR).	X		X	
Compatibility of CVIEW and vendor-developed systems.	X			
Compatibility with existing CVO software.	X			
Electronic verification of IRS Heavy Vehicle Use Tax (HVUT) data	X	X		
DSRC standards development.	X			
Consensus on standard DSRC communications.	X			
Future status of the Single State Registration System (SSRS) at national level.		X		
Security of electronic signatures.	X			
Protections provided by firewalls.	X			
Functionality of the New York Regional Processing System and the IFTA Clearinghouse	X	X		
Functionality of the Connecticut Commercial Vehicle Information Exchange Window (CCVIEW).	X			
Compatibility of Electronic Funds Transfer systems with existing DRS Vendors and standards.	X			
Implementation of the DRS Integrated Tax Administration System.	X			
Interoperability of state and carrier screening/clearance systems.	X			
CCVIEW linkages must include interstate, intrastate, and extra-Connecticut.	X			
CVIEW strategy regarding interaction and support of state legacy systems.	X	X	X	X
Functionality and integration of IRP VISTA & IRP Clearinghouse.	X	X		
Platform, communication and network considerations for interstate, intrastate, and extra-state systems.	X			
Customization of CVISN-related software.	X		X	
Functional upgrades to legacy systems	X		X	X
Participation in regional base-state initiatives (i.e., NOOPA)		X		X

Appendix A

CVO Steering Committee

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Minutes of the
Connecticut ITS/CVO Steering Committee
Connecticut ITS/CVO Business Plan
September 15, 1997

Harold Decker of the Connecticut Department of Transportation opened the meeting by thanking the attendees for coming and introduced the purpose of the meeting. This was followed by self-introductions by attendees.

Robert D. Pritchard, Executive Director-Northeast Transportation Institute of the ATA Foundation (NTI) provided background on NTI support to date of ITS/CVO in Connecticut, most notably—the Connecticut ITS/CVO Institutional Issues Study, completed in December 1995, and preparation of the Connecticut the Commercial Vehicle Information Systems and Networks (CVISN) Model Deployment grant proposal. He provided the group with the following materials:

- NTI outreach brochure covering the findings of the Connecticut Institutional Issues study and CVISN Model Deployment Project in Connecticut;
- NTI analysis of ITS/CVO benefits and costs to motor carriers—Assessment of ITS/CVO User Services—Qualitative Benefit/Cost Analysis;
- scope of work and outline for the Connecticut ITS/CVO Business Plan; and,
- hard copies of the slide presentation for the meeting.

Mr. Pritchard explained that the Connecticut ITS/CVO Business Plan will emphasize procedural and institutional reengineering to support effective technological deployment. While ITS/CVO activities in Connecticut center on the CVISN model deployment, the business plan will consider ITS/CVO programs either not implicitly covered by the CVISN project or are of low priority.

Lt. Rudolph Supina, CVISN Project Manager, provided an update on the CVISN efforts and overview of the other ITS/CVO programs in Connecticut. He reported that the draft CVISN project plan was submitted that day to Federal Highway Administration (FHWA) for their approval. Due to insufficient available information, the CVISN project plan was submitted with sections "To Be Filled In."

Submittal of the CVISN project plan had been delayed due to reassignment of key personnel from the project and recent deep agency staff reductions. The delay in submitting the plan had put federal funding for the CVISN project in jeopardy. Mr. Fran Foley—FHWA reported that if Connecticut forfeits the $500,000 CVISN grant, there are currently four to five other states in position to apply for the funding.

The date for final approval of the Connecticut CVISN project plan is October 15, 1997. Mr. Foley noted that if the plan is accepted by FHWA, the short time remaining would

require “hand carrying” the Memorandum of Understanding (sign-off) to each commissioner.

Mr. Foley stressed that the newly created Connecticut Department of Information Technology (DOIT) DOIT needs to take a strong role in the CVISN project. Lt. Supina noted that in a meeting earlier that day, the head of DOIT and former CVISN Project Manager, Michael Krochmalny stressed that DOIT is committed to supporting the CVISN effort, though is hampered by limited staff.

Lt. Supina explained that the CDPD mobile communications system for roadside enforcement is fully deployed and that Connecticut is the only state currently uploading inspection results to the SAFER Mailbox. Also, the new Union weigh station has been completed. This weigh station is equipped with weigh-in motion detection and direct access to SAFER.

Mr. Pritchard provided an update on the CC FOT #10—Coordinated Safety Management Project—in which Connecticut is a partner state with Pennsylvania and New York. Currently, the project plan for this effort is being drafted by the ATA Foundation.

Mr. Pritchard presented the motor carrier perspectives—what carriers want, both in agency service attributes and in technology deployment (see attached slides). He also presented a theoretical mock-up of a Connecticut Electronic One-Stop Motor Carrier Center—on-line access to everything a motor carrier needs to know and do to operate safely and legally in Connecticut.

Mr. Michael Healy—CTDOT stated that current and developing motor carrier software systems should drive the development of carrier/agency electronic interfaces.

Mr. Pritchard outlined the four tasks to be accomplished to develop the Connecticut ITS/CVO Business Plan.

Discussion was held concerning the relative benefits of the ITS programs to motor carriers and agencies. It was generally agreed that potential benefits of ITS/CVO are not limited to carriers, but that the agencies would realize efficiency improvements.

Mr. Edward Mehmel—Connecticut Department of Revenue Services (DRS) stated that tight budgets and staff require prioritization of their efforts. DRS would like to know what are the motor carrier preferences and what is the likely motor carrier participation or market potential for the envisioned ITS/CVO services in Connecticut.

Mr. Michael Riley—Motor Transport Association of Connecticut asked if the Connecticut ITS/CVO Business Plan would emphasize procedural improvements, and if so would issues like oversize/overweight (OS/OW) permitting be considered. The answer was yes. The possibility of Connecticut participation/acceptance in/of the New England

Transportation Consortium uniform OS/OW permit process will be considered in the business plan. The primary challenge in OS/OW permitting is timely routing of the vehicles.

Other procedural issues were discussed, such as private carriers not being required to register under SSRS, therefore why not eliminate SSRS in Connecticut. The Connecticut CVISN team has taken pains to assure that credentials can be electronically issued to intrastate carriers.

Mr. Pritchard described the next steps in the business planning process. These will include:

- updating of process flows developed for the Connecticut Institutional Issues Study;
- conducting motor carrier interviews to assess their needs; and,
- continue researching motor carrier informational web sites.

Mr. Decker closed the meeting by thanking the participants for coming and providing their input.

Connecticut ITS/CVO Steering Committee
Connecticut ITS/CVO Business Plan
September 15, 1997
Participants

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Minutes of the
Connecticut ITS/CVO Steering Committee Meeting
February 2, 1998

Hal Decker of the Connecticut Department of Transportation opened the meeting by thanking the attendees for coming and introduced the purpose of the meeting:

- review of Draft Connecticut ITS/CVO Business Plan;
- CVISN project update; and,
- presentations by vendors of Carrier Automated Transaction (CAT) and Credentialling Interface (CI) software.

This was followed by self introductions by attendees.

Robert D. Pritchard, Executive Director of the Northeast Transportation Center (NTI) provided an overview the Connecticut ITS/CVO Business Planning effort. Specifically:

- status of the business planning process;
- goals and objectives of ITS/CVO in Connecticut;
- current and planned ITS/CVO activities;
- results of a test survey of motor carrier preferences for ITS/CVO services;
- potential motor carrier and agency process changes resulting from ITS/CVO deployment;
- current Connecticut agency data requirements; and,
- Connecticut CVISN (CCVISN) issues.

Mr. Pritchard explained that CCVISN encompasses a large part of the Connecticut ITS/CVO process, it is then desirable to emphasis CCVISN in the ITS/CVO Business Plan. Other Connecticut ITS/CVO projects included in the plan include the following I-95 Corridor Coalition Field Operational Tests (FOTs):

- FleetForward—Advanced Traveler Information System for Commercial Vehicle Operations (FOT 6);
- Safety Assurance—Roadside safety information exchange (FOT 7); and,
- Coordinated Safety Management—safety education and outreach (FOT 10).

Lt. Rudy Supina (Connecticut Department of Motor Vehicles (DMV) provided an update on FOT 7—deployment of mobile data terminals with mobil connectivity to SAFER/SAFER Data Mail Box. Lt. Supina commented that more coordination between the ongoing FOTs in the corridor with CVISN activities in Maryland, Virginia, and Connecticut is needed.

Dennis Walsh (DMV) who is providing planning and management support for CCVISN, provided a CCVISN project update. Mr. Walsh introduced the CCVISN team members and commended the group for their dedication to the program and close coordination of activities.

Mr. Walsh explained recent CCVISN accomplishments, short-term goals, and issues (see attached handout). He explained that through recent staff reductions and statewide MIS demands, agency MIS capacities are inadequate to meet the scheduled CCVISN milestones. The CCVISN project team has been coordinating with the Connecticut Department of Information Technologies (DOIT) to facilitate procurement of outside technical support to insure timely deployment of CCVISN elements. Procurement activities will be advanced in the coming weeks.

Michael Riley, President of the Motor Transport Association of Connecticut (MTAC) and Industry Project Manager for CCVISN, stated that CCVISN is a major commitment by the state and federal government for improving the processes for the industry. He also stated that as a pilot state, Connecticut can have a profound impact on CVO in the region.

Mr. Pritchard explained the next steps in the ITS/CVO business planning process. These include:

- a survey of MTAC members regarding technologies currently used, and preferences for type and delivery of ITS/CVO services;
- process/systems analysis of Connecticut oversize/overweight permitting as a case study; and,
- compilation of comments for draft business plan revision.

Following Mr. Pritchard's presentation, the three CAT/CI vendors provided details regarding the functionality of their software applications. The slides presented by the vendors are attached. The following is a summary of comments and questions raised during the presentations.

Lockheed Martin (LM)

LM, supporting IRP and IFTA in approximately 30 states, presented an architectural overview integration of CAT and CI with their VISTA RS and TS systems. LM provides connectivity with VISTA RS via EDI or RSIS CAT. Electronic tax returns are conducted via Comdata system.

In June 1998, LM will begin beta-testing an internet-based CAT in Montana. The EDI and internet-based CAT/CI will include a prototype oversize/overweight permitting capability. This prototype will allow a carrier to:

- establish an account (the system is not set up to process sub-accounts);

- provides own account viewing only—password protected;
- provide GIS-based routing capability in the fourth quarter, 1998;
- linkage to VISTA RS for data filling; and,
- apply for and receive (fax or printed at carrier office) permits on-line (no batch data input from carrier legacy system capability).

The State of Montana will allow the following capabilities;

- the electronic oversize/overweight permitting process is expected to be a 24 hours-seven-day per week system;
- on-line and weigh station permitting will be tested, starting in April, 1998;
- payments for fees and taxes can be made via Comdata Comcheck, cash, personal checks, debit, credit accounts—no premium charged for credit cards,or direct electronic funds transfer (IRP and IFTA only).

The LM CAT is populated with data from the VISTA system. It was asked whether another vendor's CAT could easily integrate with and populate data fields from the VISTA system. This can be done using standard EDI transaction sets.

RS Information Systems (RSIS)

RSIS indicated they were recently awarded support of the Minnesota CVISN pilot. RSIS also provides the CAT/CI for the Virginia CVISN prototype deployment.

The attached slides provide detail to RSIS capabilities and experience. The company is currently developing specifications for an internet-based CAT.

It was asked if the CAT maintained a transaction record for summary reporting by carriers—the CAT does provide this capability. The CAT provides batch loading of information from motor carrier legacy systems.

Intelligent Decision Technologies (IDT)

The IDT CAT was developed and tested with large and small motor carriers. The PC (EDI) CAT is being used in the Maryland CVISN prototype deployment. It is GUI-based.

Currently the PC CAT is 16-bit to accommodate Windows 3.1 Users. 32-bit processing requirements may loose the Windows 3.1 users. IDT is currently conducting a survey of motor carriers to determine their requirements and capabilities.

The company is also developing an internet-based CAT. Using the internet, the CAT would attach an X-12 transaction set, resulting in no transmittal charge.

IDT believes that small carriers would opt for an internet-based CAT; medium carriers-the

PC CAT; and, large carriers-direct EDI. Version control and rate tables can be maintained by the CI.

Following the vendor presentations, Mr. Pritchard charged the working group with the review of the Draft ITS/CVO Business Plan. Comments are to be forwarded to Dan Stock or Dennis Walsh.

The next meeting of the CVO Steering Committee is expected to be held in April 1998. Date to be announced.

Mr. Decker closed the meeting by thanking the participants for coming and providing their input.

Connecticut ITS/CVO Steering Committee Meeting
February 2, 1998
Attendees

NAME	ORGANIZATION	PHONE	FAX
Dan Stock	ATAF/NTI	401-722-7800	401-722-0109
Bob Pritchard	ATAF/NTI	401-722-7800	401-722-0109
Kevin Maloney	NEXT	860-623-8979	860-654-1589
Mike Williamson	CS	617-354-0167	617-354-1542
Rudy Supina	CT DMV CVSD	860-528-6388	860-528-8117
Dennis Walsh	CT DMV	860-528-6388	860-528-8117
Bud Roberts	CT DMV	860-528-6446	860-528-8117
Rosemary Rivers	CT DMV IRP	860-566-5586	860-566-6502
David Ostafin	CT DMV IRP	860-566-5631	860-566-6502
Phil Uzanas	CT DMV	860-528-6565	
Keith Kennedy	CT DMV	860-566-1398	860-566-2661
Brenda Lauzier	CT DRS	860-297-4898	860-297-4797
Ed Mehmel	CT DRS	860-297-4800	860-297-4797
M Krochmainy	CT DOIT	860-566-2125	860-566-1786
Penny Neron	Edart Truck Rental	860-527-8274	860-527-0330
Doug Click	Edart Truck Rental	860-527-8274	860-527-0330
Virginia Kansas	Edart Truck Rental	860-527-8274	860-527-0330
Mike Raymond	UPS	860-275-1849	860-275-0859
Chris O'Connell	UPS	860-275-1934	860-275-1931
Paul Franson	CT DEP	860-424-3565	860-424-4059
Norm Bolduc	Kay's Trucking	860-291-2436	860-291-2822
Steve Gale	JR Christoni Inc	203-265-0291	203-265-7582
William W Stoeckert	CONNDOT	860-594-2630	860-594-2655
Hal Decker	CONNDOT	860-594-2636	860-594-2655
Michael Healy	CONNDOT	860-594-2634	860-594-2655
Rudy Kamm	CONNDOT	860-594-2874	860-594-2859
Mike Riley	MTAC	860-520-4455	860-520-4567
Fran Foley	FHWA/OMC	860-659-6700	860-659-6725
Nick Demetriades	CT DMV	860-566-4909	860-566-2661
Louis Heller	CT DPS-CSP	860-685-8435	860-685-4983
Dave Dahlbeka	Lockheed Martin	800-234-1009x5219	602-254-4451
Katie Spitza	Lockheed Martin	800-234-1009x5208	602-254-4451
Rich Bates	FHWA/OMC	860-659-6700	860-659-6725

Minutes of the
Connecticut ITS/CVO Steering Committee Meeting
May 12, 1998

Hal Decker of the Connecticut Department of Transportation and Robert Pritchard of the Northeast Transportation Institute (NTI) opened the meeting by thanking the attendees for coming and introduced the purpose of the meeting: review of Draft-Final Connecticut ITS/CVO Business Plan; and, a CVISN project update.

This was followed by self introductions by attendees.

Robert Pritchard and Dan Stock of NTI provided an overview the Connecticut ITS/CVO Business Plan—(slides attached). Specifically:

- mission statement;
- goals and objectives of ITS/CVO in Connecticut;
- current and planned ITS/CVO activities;
- expected motor carrier and agency process changes resulting from ITS/CVO deployment;
- results of a survey of motor carrier preferences and potential motor carrier participation in Connecticut ITS/CVO program;
- potential motor carrier and agency process changes resulting from ITS/CVO deployment;
- current and planned ITS/CVO programs; and,
- deployment issues .

The group discussed the demographics of Connecticut motor carriers—predominately small local fleets with limited technology use. The survey results of 172 Connecticut-based carriers indicated that the most desirable ITS/CVO services are informational (i.e., real-time access to fleet safety information, roadway traffic conditions, and motor carrier rules and regulations. Nearly as highly valued are electronic credentialing and tax administrative services (i.e., IRP, IFTA, and oversize/overweight permits).

The discussion focused on the value of improving incident response and notification. Methods of improving the flow of traffic/incident information among agencies and the public were discussed. State Police and the Department of Transportation (CTDOT) are currently exchanging this information, but are examining ways to improve incident notification between the agencies. One proposed solution is the development of a State-wide State Police dispatch system which would automatically provide CTDOT notification and status of highway incidents.

Such improved flow of traffic information, especially to the motoring public could help the State meet congestion reduction goals of five percent along I-95 by the year 2003.

Robert Pritchard presented a demonstration of the *FleetForward* operation test—a proof of concept for the delivery of real-time traffic information to motor carriers to improve routing and dispatching.

Dennis Walsh provided an update on the development of a Request-For-Proposals (RFP) for vendors to integrate Connecticut CVO agency systems under the CVISN grant. He explained that the RFP would cover two phases of CVISN deployment. Phase I would address IRP, IFTA, and oversize/overweight permitting. Phase II would cover intrastate credentialing and roadside clearance deployments. The RFP will be designed as a Master Contract Agreement which would not require new RFPs for incremental systems improvements over the five year planning horizon. The CVISN project team is assessing the functionality and replicability of systems used in other states to determine the most cost-effective deployment options, prior to issuance of the RFP.

Michael Krochmalny—Connecticut Department of Information Technology—describe the State's efforts to establish an Internet-based licensing and permitting capability for most of the State's agencies. This initiative—the High Efficiency Licensing Program (HELP)—will initially provide the links for the public to access information on licensing and permitting requirements and procedures. It is envisioned that on-line transactions will be enabled through agency legacy system upgrades at a later time. No budget is provided in the HELP effort to directly support legacy systems upgrades.

Michael Riley—Motor Transport Association of Connecticut—reiterated the top ITS/CVO priorities as determined by the survey of motor carriers—Oversize/overweight permitting, electronic IRP/IFTA credentialing, and real-time access to traffic information.

The CVO Steering Committee endorsed the Connecticut Draft-Final ITS/CVO Business Plan and voted that it should be presented to the Connecticut Motor Carrier Advisory Council on June 4, 1998 for endorsement. The members of the CVO Steering Committee will provide comments on the report to Dan Stock to be incorporated in the final report.

Hal Decker and Robert Pritchard closed the meeting by thanking the participants for coming and providing their input.

Connecticut ITS/CVO Steering Committee Meeting
May 12, 1998
Attendees

NAME	ORGANIZATION	PHONE	FAX
Dan Stock	ATAF/NTI	401-722-7800	401-722-0109
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Hal Decker	CONNDOT	860-594-2636	860-594-2655
Michael Healy	CONNDOT	860-594-2634	860-594-2655
Rudy Kamm	CONNDOT	860-594-2874	860-594-2859
Mike Riley	MTAC	860-520-4455	860-520-4567
Rich Bates	FHWA/OMC	860-659-6700	860-659-6725
Paul Krisavage	CT DPS-CSP	860-685-8435	860-685-4938
Louis Heller	CT DPS-CSP	860-685-8435	860-685-4983

Appendix B

Guiding Principles

Appendix C

Connecticut Motor Carrier Survey

March 16, 1998

Dear Member:

The Motor Transport Association of Connecticut is a full partner with Connecticut transportation agencies in an statewide effort to improve highway safety, and reduce the costs of complying with regulations and travel delays due to congestion and roadside inspections. The deployment of advanced computer and communications systems by Connecticut agencies will help advance these goals. The systems are being designed to feature:

- on-line registration and permitting;
- credential transmittals and recaps;
- electronic payments for fees and taxes;
- roadside clearance for safe and legal motor carriers; and,
- motor carrier access to real-time safety and travel information.

Please complete and return the enclosed self-addressed postage-paid survey to help this effort. The purpose of the survey is to provide better understanding of how Connecticut motor carriers currently use technology and what electronic services they feel may be of most value to their business. Your response is very important. **All survey responses will be kept strictly confidential and used only in summary format**.

If you have any questions or would like additional information, please call me or Dan Stock of the Northeast Transportation Institute at (401) 722-7800.

Thank you for you help.

Sincerely,

Michael Riley

Connecticut Motor Carrier Technology Survey
All responses will be kept strictly confidential

1. How many power units does your company operate?
   1-5 6-19 20-50 51-100 101-249 250+

2. Are you an: **Inter-state** **Intra-state** motor carrier? Which best describes your company's average length of haul? 1-49miles 50-100miles 101-200miles 201-499miles 500+miles

3. What commodities does your company haul? **Please check all that apply.**
   General Freight-Truckload General Freight—LTL Household Goods-Movers Parcel
   Automotive Parts/Vehicles Heavy Machinery Building Materials Bulk—Dump Trucking
   Petroleum Products Farm Fresh Products Processed Foods Retail Store Delivery
   Other: _____

4. What percent of your dispatches require permit for oversize/overweight loads?
   None 1-25% 26-50% 51-75% 76-100%

5. What technologies does your company use?
   Cellular Phone On-board scales Electronic Data Interchange
   Two-way radio Vehicle location tracking Internet access
   Pager Collision avoidance system On-board or hand-held computers
   Satellite communications system Electronic logbooks Computer-aided routing and dispatching
   RF Tags for tracking or electronic toll payments—If yes, what manufacturer made the tag? _____

6. What type of computer system(s) does your company use for tracking **fleet registrations and permits?**
   Computer: None 486 PC Pentium PC Other: _____
   Operating System: Windows 3.x Windows 95 Windows NT Other: _____
   Software: Specialized off-the-shelf, **please vendor and product name**:_____
   Generic Application (i.e., Lotus, Excel, etc.) Proprietary Other: _____

7. What type of computer system(s) does your company use for **fuel tax** calculations and administration?
   Computer: None 486 PC Pentium PC Other: _____
   Operating System: Windows 3.x Windows 95 Windows NT Other: _____
   Software: Specialized off-the-shelf, **please vendor and product name**:_____
   Generic Application (i.e., Lotus, Excel, etc.) Proprietary Other: _____

8. Please rank the potential value of the following envisioned automated services to your company:

	(1=no value; 5=very valuable)					
	1	**2**	**3**	**4**	**5**	**Don't know**
Electronic registrations—new/renewal/supplemental						
Electronic fuel tax credentials applications						
Electronic fuel tax filings						
Electronic application/reception for oversize/overweight permits						
Roadside clearance for safe and legal carriers						
Electronic access to motor carrier regulations						
Real-time access to your fleet's safety information						
Real-time access to traffic and road conditions						

9. Electronic credentials and tax transactions may require immediate payments. Please indicate the payment options you may prefer to use: Not Interested Credit Card Debit Account
   Electronic Funds Transfer Other:_____

10. Would you be willing to talk to us in more detail? If Yes, please provide your name and company information below.

    Company Name: _____

    Contact Person: _____Phone: _____

This survey has return postage and address on the reverse side for your convenience. Please complete, fold, tape and return

Appendix D

ITS/CVO Benefit/Cost Studies

The ITS/CVO Benefit/Cost Studies Can Be Viewed at the Following Internet Sites:

Assessment of Intelligent Transportation Systems/Commercial Vehicle Operations User Services:
ITS/CVO Qualitative Benefit/Cost Analysis--

http://www.itsdocs.fhwa.dot.gov/jpodocs/repts_te/$y01!.pdf

State Fiscal Implications of Intelligent Transportation Systems/Commercial Vehicle Operations Deployment—

http://www.nga.org/Transportation/ITSCVO.htm

Appendix E

Connecticut ITS/CVO Project Plans

High Efficiency Licensing Program

State of Connecticut
High Efficiency Licensing Program (HELP) Meeting
Connecticut Fire Training Academy
Wednesday, March 25, 1998
1:30 p.m. - 3:30 p.m.

Who's ON **FIRST**?

High Efficiency Licensing Program

Introduction
Bruce Carlson, *Office of Policy and Management (OPM)*

HELP Overview - Vision, Goals, Principles and Deliverables
Bruce Carlson, MaryAnn Palmarozza, Dennis McNeil and Mike Mehigan,
Office of Policy and Management (OPM)

HELP Website Development Process
John Forbes and Linda DeConti, *Office of Policy and Management (OPM) and ConneCT Management Advisory Committee (CMAC)*

DOIT Services - Listservs, Training and Technology
Michael Krochmalny, *Department of Information Technology (DOIT)*

HELP **Vision**

- Customers of state government will interact with state agencies at their convenience, no longer constrained by limited facilities, hours of operation or limited access.
- Connectivity, whether through personal contact, the internet or the telephone, will provide increasing customer choice and control over the delivery of government services.

The **HELP project** will create a **customer-focused** service delivery structure, supporting **licensing and permitting** functions **across state agencies**.

HELP **Principles**

- Promote “whole of government”, **boundaryless** thinking
- Focus on state business, not the business of a particular agency
- IT enabled, with less emphasis on brick and mortar solutions
- **Customer-focused**
- Maximize core competencies
- **Service delivery driven**, not functional or support-based driven
- Organizational structure must be simpler
- Ease of access: **single point of entry**, but potentially with multiple portals
- Assumptions must be tested and validated with customers
- Performance measures are critical to assess the quality of service delivery

HELP **Deliverables** - *Seven (7)*

1. Master Listing
2. Smart START
3. **Website**
4. Internal Improvements
5. Master Application
6. Ease of Access
7. Communications

1. Master **Listing** *of Licenses*

- Data collection is progressing on-schedule with agencies
- The master database, integrating the information from all licensing agencies, is under construction
- Preliminary data collection has been given to website coordinators to begin internet design work
- The master listing will be available in hard copy and electronic format by **March 31, 1998**.

Status of Deliverables

2. Smart START - *One Stop Business Registry*

- The registry has been re-named, and will be operated by CERC (Connecticut Economic Resource Center) as SMART START
- **Initial Agencies** in SMART START are DCP, DOL, and DRS
- Tactical planning between CERC, OPM and participating agencies has been on going. Planning assistance has also been provided by the State Treasurer's Office and the Office of the State Comptroller
- **Contract** negotiations between OPM and CERC are concluding, and contract **approval is expected shortly**
- SMART START should be **operational** by **April 1**
- Efforts to streamline and automate major processes between the general public, CERC and state agencies will begin soon

Status of Deliverables

3. Website

- A draft **website development plan**, including **timeline** has been developed
- The vision and goals have been presented to the **ConneCT Management Advisory Committee (CMAC)**
- A **baseline Internet technology assessment** for each agency has been compiled, however, we may need to collect more specific information related to licensing programs
- The database structure to support the website is **pending** the completion of the Master List data collection

Status of Deliverables

4. Internal **Improvements**

- Preliminary discussions have begun with some licensing agencies

Status of Deliverables

5. Master **Application**

- Processing forms for all licenses have been collected from participating agencies
- Forms have been catalogued into the master listing database

Status of Deliverables

6. Ease of **Access**

- Interagency issues affecting access have been identified
- Critical process improvement issues have been identified; e.g. alternative payment methods, electronic file transfer, signatory requirements, etc.

Status of Deliverables

7. **Communications**

- Target communication recipients have been identified
- A balanced mix of communication strategies has been developed
- Issues which will affect the implementation of the communication plan have been identified

Status of Deliverables

NEXT **Steps**

- Opening of SMART START
- Website Accessible to Public
- Master Application

Who's ON **SECOND**?

High Efficiency Licensing Program

Introduction
Bruce Carlson, *Office of Policy and Management (OPM)*

HELP Overview - Vision, Goals, Principles and Deliverables
Bruce Carlson, MaryAnn Palmarozza, Dennis McNeil and Mike Mehigan,
Office of Policy and Management (OPM)

HELP Website Development Process
John Forbes and Linda DeConti, *Office of Policy and Management (OPM) and ConneCT Management Advisory Committee (CMAC)*

DOIT Services - Listservs, Training and Technology
Michael Krochmalny, *Department of Information Technology (DOIT)*

Top 10 Basic Questions

1 **What is a Website?** One or more web pages linked together with a common purpose. This purpose can be anything from a product or service advertisement to an interactive customer service center.

YOUR Front Door on the Information Superhighway gives customers **another source** from which to gather information about your organization or services. It also allows customers to **contact YOU anytime of day** via forms or email.

2 **What is a Link?** A " hyperlink" is a graphic or text that when clicked on by a mouse or cursor brings up another web page (or web address) in either the current or a different Website.

3 **What is E-mail**? " Electronic mail" , is an electronic means by which computer documents can be transferred from one user to another within minutes.

4 **What is a Web Address or URL?** Like a phone number, you are calling on a website or web page at a particular address on the Internet.

5 **What is HTML?** A standard format (Hypertext Markup Language) that is used to define (code) all Web pages. This uniform code is text based and can be read by any type of computer.

6 **What is a Browser?** The " browser" is the software program you use to surf the Internet used to view Web pages (e.g. Netscape or Microsoft Internet Explorer). Basically, it translates HTML into readable text and/or graphics.

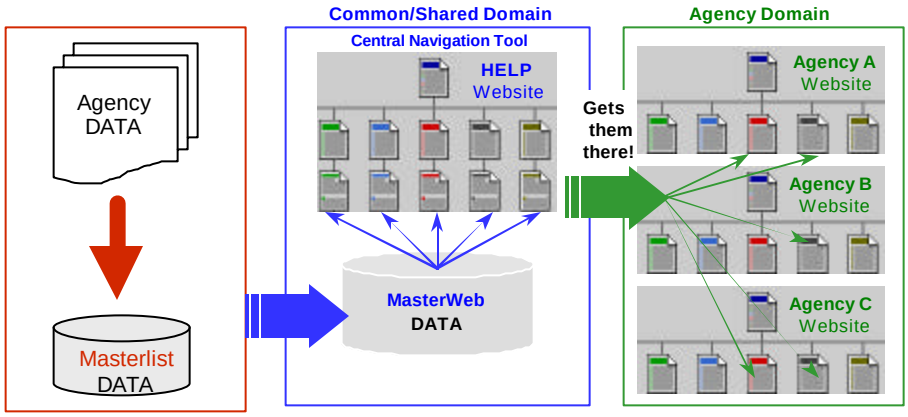
7 **What is the Internet?** A network of computers around the world you can connect to share information via web, E-mail or other. Once you connect via the phone line your computer talks to the host web computer (server) you are visiting in a digital language.

8 **What is the Difference Between the World Wide Web and the Internet?** The Internet actually encompasses all services including ftp, newsgroups, email, telnet and http (the Web). The http:// or hyper-text transfer protocol, is used to address a website or web page. E-mail protocol is mailto://

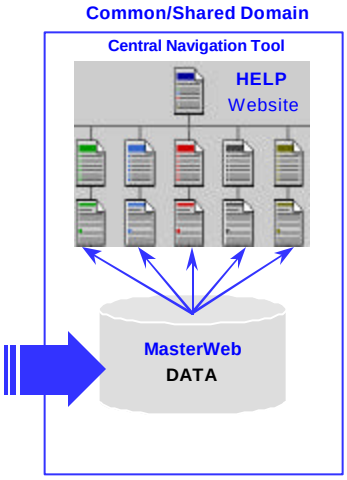
9 **What is an Internet Service Provider or ISP?** A business, much like the phone company, that provides access to and hosts websites on the Internet/Web for private individuals of other businesses. For many State Agencies, DOIT provides this service.

10 *Why are YOU here?*

The **Master** Plan

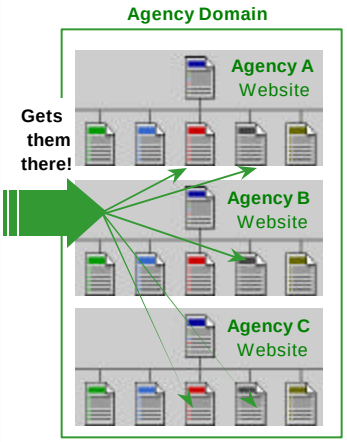


What is IN the HELP Website?



Descriptive Information ONLY!

- License information - helps customers find and select the license they want.
- Contact information - plus customers in contact with the right person(s) in an agency.
- Agency Website information - gets customers to the right place on the Agency Website for doing business (e.g. actual application for a license)



The Ultimate **Question?**

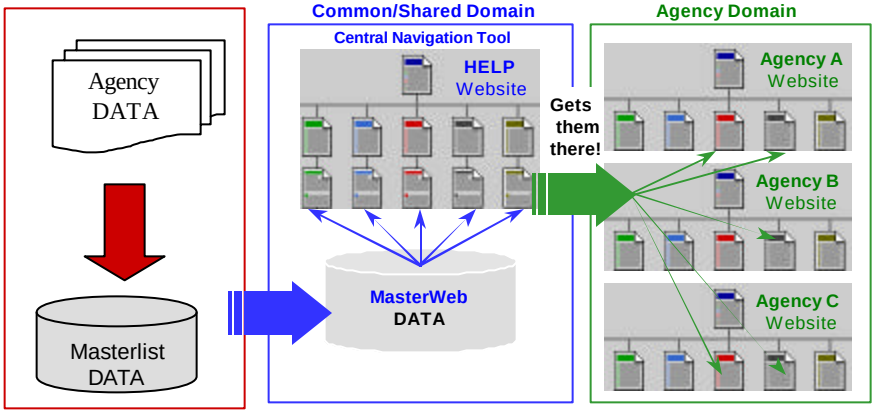
- What can customers **DO** and what will they find **when they get there?**
- **Are Agencies ready for doing business online** (e.g. actual processing of processing of applications for a license)?

Online Forms or Instructions
Electronic Commerce!

User Expectations:

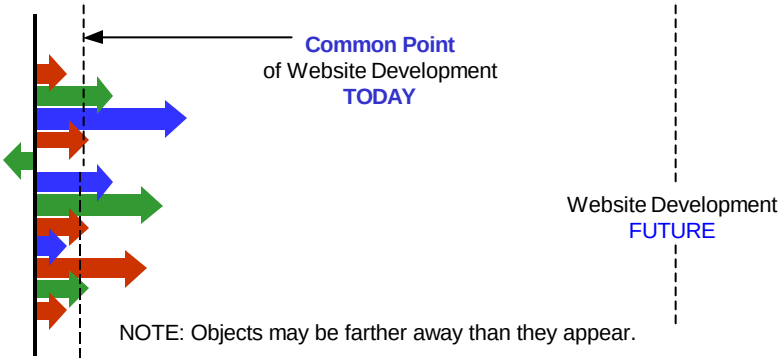
Level of Service
Common Standards
Look and Feel

The Master Plan



Reality **Check** - *Where are we?*

- We **need to find out**…**AND FAST!**
- Work together to bring **everyone to a common place** to move forward toward Incremental achievable goals established by the team.



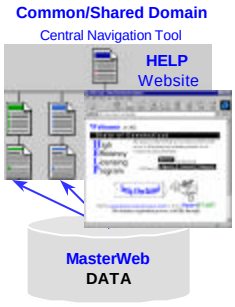
How will the HELP Website Work?

AGENCY View

BACK Door

How to **Manage** YOUR info?
- Online Access to YOUR Agency Data
- Security/Authorization
- Browser Internet Access E-Mail Account

Common/Shared Domain
Central Navigation Tool

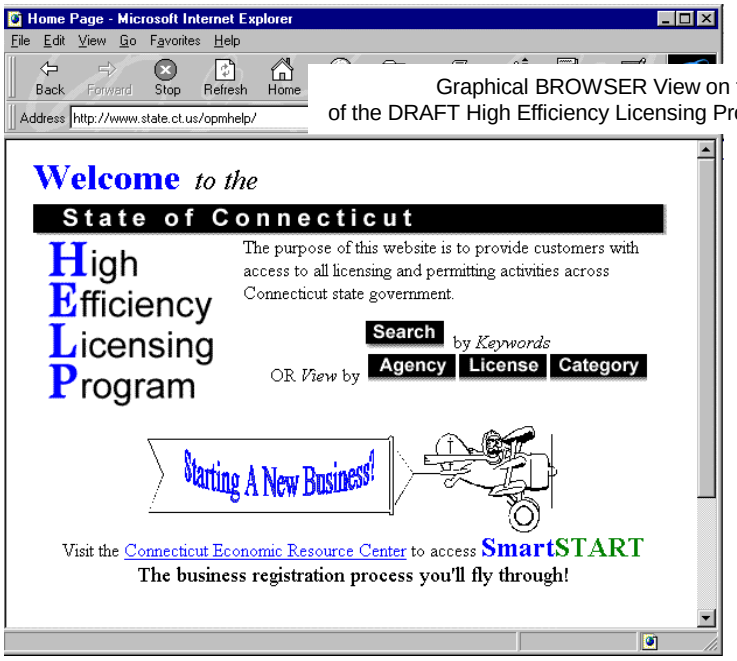


CUSTOMER View

FRONT Door

How to **Find** a License?
- BY Keyword Search
- BY Agency
- BY Category (e.g. Recreation)
- BY License Name

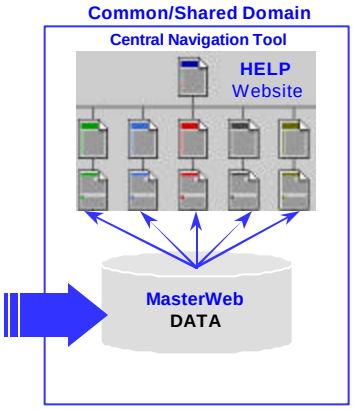
http://www.state.ct.us/**opmhelp**



Graphical BROWSER View on the Internet
of the DRAFT High Efficiency Licensing Program, HELP Website

NOTE: The Internet address for the DRAFT HELP website is temporary and for development purposes ONLY. The website will be registered with a unique web address URL at a later date. All parties will be notified if this address should change.

Evolution *of the* **Content?**



Reengineer Masterlist database structured **for website use**

Maintain existing data content now, but expect that the **DATA definitions and content may change** for usability in the online environment

Reality Checklist

- **Technology Assessment** - Infrastructure: Hardware/Software and Network Access/Connectivity
- **Skills Assessment** - Training Needs to enable Use of Technology
- **Agency Website Assessment** - What is built already on Agency Websites to serve the public for each of their license programs
- **HELP Website** - Shared/Common DATA Content Improvements to make the Central Navigation Tool useful.

Steps to Working on the **HELP Website**?

STEP 1: **Getting Connected - DO IT!**

STEP 2: **Getting YOUR Bearings**

- Browsing the Internet - look at other States (Maryland/Washington)
- Communicating Electronically with Others E-Mail/Listserv

STEP 3: **Collaborating with YOUR Colleagues**

- Understanding YOUR Relationship to Other Agencies
- Thinking about what makes **COMMON** sense for everyone?

STEP 4: **Updating YOUR Information Online**

- **Evolution** from Masterlist Data to determining COMMON Definitions and Standards for the WebData
- Accuracy of Information
- **Limited Space** for Presenting Information Online *(640x480)*

How the **Collaborative Process** Works *in an Online Environment?*

- **Working together online** to accomplish common goals in an interactive environment *(Timeline)*
- **Notification of Meetings** *(Tentative Schedule of Meetings)*
- **Sharing Ideas** in a fast, responsive and visual way

You need the Tools and the Connection!

Key things to remember

- Technology will Change
- Government is Good
- OPM and DOIT are really here to HELP YOU!

Who's ON **THIRD**?

High Efficiency Licensing Program

Introduction
Bruce Carlson, *Office of Policy and Management (OPM)*

HELP Overview - Vision, Goals, Principles and Deliverables
Bruce Carlson, MaryAnn Palmarozza, Dennis McNeil and Mike Mehigan,
Office of Policy and Management (OPM)

HELP Website Development Process
John Forbes and Linda DeConti, *Office of Policy and Management (OPM) and ConneCT Management Advisory Committee (CMAC)*

DOIT Services - Listservs, Training and Technology
Michael Krochmalny, *Department of Information Technology (DOIT)*

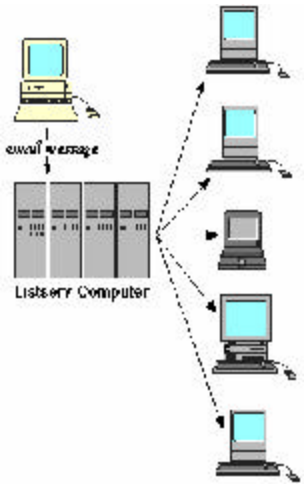
Some of the **Internet** Services *that* **DOIT** *offers...*

- Servers which host many State Agency Websites, including **ConneCT**, the official State of Connecticut website
- Agency Internet Access
- IT Training
- Internet Technical Assistance and Expertise
- Network Services and Support
- IT Procurement
- E-mail accounts and Listserv support

DEPARTMENT of INFORMATION TECHNOLOGY

What is a listserv?

A " listserv" is a software program that automatically distributes copies a single E-mail message to all the list subscribers on an electronic " mailing list" .



How does it work?

Users can subscribe or unsubscribe to the mailing list by sending an E-mail message to the list server; the list server software will automatically update the mailing list for future E-mail postings.

Once you have been added to a list, you will receive all mail (postings) sent to the list by its members. You may follow the discussions or join in on them.

You can send your response in two ways

- to the list by using the reply or list address - in which case, all members of the list will receive it, or
- To an individual on the list by using their individual address (e.g. michael.varney@po.state.ct.us)

HELP Listserv Address:
opm-help@list.state.ct.us

How can **DOIT Support** *your Agency with the Help Project*?

Technology Needs - **Infrastructure**

- Hardware/Software Needs
- How to Get Connected

Skills Development - **Training**

- Browser
- E-Mail

Listserv - **Communication**

Contact:
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